3-519-959-15 (2)

Projection Wall Unit/Chassis

Operating Instructions
Before operating the unit, please read this manual thoroughly and retain it for future reference.

Installation and preliminary adjustments should be performed by qualified Sony personnel.

Mode d'emploi
Avant de faire fonctionner cet appareil, lisez attentivement le présent mode d'emploi et conservez-le pour toute référence ultérieure.

L'installation et les réglages préliminaires doivent être exécutés par un personnel Sony qualifié.

Manual de instrucciones
Antes de utilizar la unidad, lea cuidadosamente este manual y consérvelo para futuras referencias.

La instalación y los ajustes preliminares deben realizarlos personal cualificado de Sony.

RVP-411DS/411DMS Projection Wall Unit
CHP-411D/411DM Projection Wall Chassis

Sony Corporation Printed in Japan

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English

WARNING

Owner's Record

The model and serial numbers are located on the side. Record these numbers in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

For the Customers in the USA

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the Customers in Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

For the Customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code.

Green-and-yellow	:Earth
Blue	:Neutral
Brown	:Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow. The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Voor de klanten in Nederland

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

The socket-outlet should be installed near the equipment and be easily accessible.

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About this manual

This manual covers two types of models: RVP-411DS/411DMS and CHP-411D/411DM. The basic operations are the same but the following are different.

RVP-411DS/411DMS: Cabinet and chassis model without screen
Use the unit with the optional screen.

CHP-411D/411DM: Chassis model with chassis only

The RVP-411DS/411DMS with the optional VPS-411RF rear screen attached is used for the illustration purpose.
For details on installations and adjustments, please read the installation manual supplied with an optional System Control Kit.

* RVP-411D/411DM: Cube model with screen, cabinet and chassis

Precautions

On safety

- Operate the unit only on 120V AC (RVP-411DS, CHP-411D) or 220–240V AC (RVP-411DMS, CHP-411DM), 50/60Hz.
- Check that the operating voltage of your unit is identical with the voltage of your local power supply. If voltage adaptation is required, consult your Sony dealer or qualified personnel (RVP-411DMS, CHP-411DM).
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating further.
- Unplug the unit from the wall outlet or set the POWER switch to OFF if it is not to be used for several days.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surface (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity, mechanical vibration or shock.
- To avoid moisture condensation, do not install the unit in a location where the temperature may rise rapidly.

On illumination

- To obtain the best picture, the front of the screen should not be exposed directly to illumination or sunlight.
- Ceiling mounted spot lighting is recommended. Use a cover over fluorescent lamps to avoid lowering contrast ratio.
- Cover any window that faces the screen with opaque draperies.
- It is desirable to install the projector in a room where floor and walls are not of light-reflecting material. If the floor and walls are of reflecting material, it is recommended that the carpet and wall paper be changed to a dark color.

On cleaning

- To keep the cabinet looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents, such as thinner or benzine, or abrasive cleansers, since these will damage the cabinet.
- Avoid touching the lens. To remove dust on the lens, use a soft dry cloth. Do not use a damp cloth, detergent solution, or thinner.

On repacking

Save the original shipping carton and packing material; they will come in handy if you ever have to ship your unit. For maximum protection, repack your unit as it was originally packed at the factory.

Features

About the Models RVP-411DS/411DMS and CHP-411D/411DM

RVP-411DS/411DMS

The RVP-411DS/411DMS is a projection wall unit to compose a projection wall system. Use the unit with the optional VPS-411RF (1.7 mm seam) or VPS-415RF rear screen (0.2 mm seam). The expected performance cannot be obtained if the unit is used with other screens.

CHP-411D/411DM

The CHP-411D/411DM is a product equivalent to the chassis of the RVP-411DS/411DMS and RVP-511DS/511DMS. The unit is designed for use with either a 41-inch or 50-inch screen.
When it is used with a 50-inch screen, however, certain readjustments such as registration adjustment are required. For a 50-inch screen, use either the optional VPS-511RF (1.7 mm seam) or VPS-515RF (0.2 mm seam) rear screen only.

Main Features

Point-scan input capability

The analog RGB signals (31.25 kHz/50 Hz, 31.25 kHz/100 Hz, 31.5 kHz/60 Hz, 31.5 kHz/120 Hz) can be input to the RGB IN connectors. When an optional video input board is used, the analog RGB signals (15.625 kHz/50Hz, 15.75 kHz/60 Hz) can be input.

Flicker-free

When an optional video input board is used, a high-quality picture without flicker can be obtained, since the analog 15K RGB, analog color difference and composite video signals with 50 Hz and 60 Hz vertical frequency are processed to field-doubled signals when input to the projector.

Narrow screen frame

If you use the optional VPS-411RF (1.7 mm seam) or VPS-415RF (0.2 mm seam) rear screen, obstruction of the display can be minimized when the projectors are stacked.

Light weight and short depth

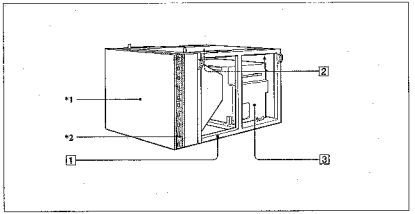
The projector can be handled easily thanks to its light weight and placed in compact spaces because of its short depth.

REMOTE connector to connect the RS-422 interface for interactive communication

The various controls can be operated with the connected computer. Linked connection of the several projectors can also be made by connecting them to REMOTE IN and OUT connectors.

Location and Function of Controls

Front



The illustration above shows the RVP-411DS/411DMS with the optional VPS-411RF screen attached.

1 **Cabinet (RVP-411DS/411DMS only)**

2 **Screen lock knob (RVP-411DS/411DMS only)**

3 **Chassis**

* RVP-411D/411DM

1 **Cabinet**

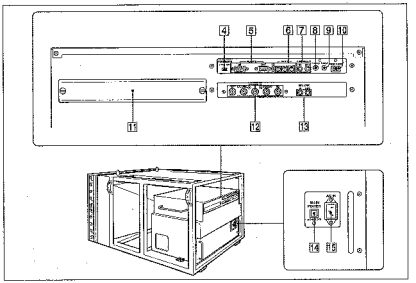
2 **Screen lock knob**

3 **Chassis**

*1 **Screen**

*2 **Screen holder**

Rear



4 **TERMINATE switch**
Sets to ON when the REMOTE IN connector is connected to the RS-422 interface and nothing is connected to the REMOTE OUT connector.

5 **REMOTE IN/OUT connectors (D-sub 9-pin)**
Connect the RS-422 interface for interactive communication with the external equipment.

6 **INDEX NO. switches**
When two or more projectors are connected, set the index number of each projector.

7 **CONTROL S IN/OUT jacks (minijack)**
Connect to the CONTROL S jacks of other Sony equipment. It is then possible to control the whole system with a single remote control unit.

8 **STANDBY indicator**
When MAIN POWER is on, the red indicator lights up indicating the unit is in standby mode. When the red indicator is lit, the projector can be turned on/off with the remote control unit (not supplied).

9 **POWER indicator**
Green indicator lights up when the power is turned on.

10 **Error code indicator**
When an operational error occurs, the error code is indicated. "00" indicates no error.

11 **Optional video input board attachment part**
Optional video input board can be attached.

12 **3/K RGB IN connectors (BNC connector)**
Connect to the 3/K RGB output connectors.

13 **ABL LINK IN/OUT jacks (minijack)**
Connect to the ABL LINK jacks on other projectors to activate the linked ABL function.

14 **MAIN POWER switch**

15 **AC IN socket**
Connect the supplied power cord.

Specifications

Optical characteristics

Projection system: 3 picture tubes, 3 lenses, Horizontal inline system, Rear projection type

Picture tube: 7-inch monochrome tubes, with coolant sealed (5.5-inch raster size)

Projection lens: F1.1/77mm

* Projected picture size:
RVP-411DS/411DMS: 41 inches measured diagonally

* Luminance:
RVP-411DMS/411DMS with the VPS-411RF screen:
ANSI (cd/m²)[1]: 280 cd/m²
Peak: 600 ft-L (2056 cd/m²)

* Light output:
ANSI lumen[1]
110 lm

Electrical characteristics

Input signal:
Analog RGB signal
When an optional PWB-411D video input board is attached:
analog color difference signal, PAL, SECAM, NTSC and NTSC4.43

Resolution:
800 × 560 dots (RGB input at 31.25 kHz/50 Hz)

Frequency range:
30 MHz, -3 dB

Input frequency:
31.25 kHz/50 Hz/1:1, 31.25 kHz/100 Hz/2:1, 31.5 kHz/60 Hz/1:1, 31.5 kHz/120 Hz/2:1 (Horizontal frequency/Vertical frequency/interlace ratio)
allowance ±1%
15.625 kHz/50 Hz/2:1, 15.75 kHz/60 Hz/2:1 (when an optional PWB-411D video input board is used)

Test signal[2]:
Cross hair/hatch (fine)/diagonal/circle/dot/H/ME/window/all white/black

Inputs:

RGB signal
R, G, B: 0.7Vp-p±2dB, 75 ohms terminated
G signal with sync input: 1.0Vp-p±2dB, 75 ohms terminated, sync negative
HD, VD: 1.0–4.0Vp-p, 75 ohms terminated, positive/negative
SYNC: composite sync input, 1.0–4.0Vp-p, 75 ohms terminated, positive/negative

Y, R-Y, B-Y signal (when an optional video input board is attached)
Y: 1.0Vp-p±2dB, 75 ohms terminated, sync negative
R-Y, B-Y: 0.7Vp-p±2dB, 75 ohms terminated

Video signal (when an optional video input board is attached)
Composite video input: BNC connector, 1.0Vp-p±2dB, 75 ohms terminated, sync negative
Y: BNC connector, 1.0Vp-p±2dB, 75 ohms terminated, sync negative
C: BNC connector, burst level, 0.286Vp-p±2dB, 75 ohms terminated (NTSC) 0.3Vp-p±2dB, 75 ohms terminated (PAL)
REMOTE IN: D-sub 9-pin connector (See "Signal assignment" on page 9 (E).)
CONTROL S IN: minijack
ABL LINK IN: minijack

Outputs:

REMOTE OUT: D-sub 9-pin connector (See "Signal assignment" on page 9 (E).)
CONTROL S OUT: minijack
ABL LINK OUT: minijack

1) ANSI lumen and cd/m² are measuring methods of American National Standard IT 7.215.
2) Inputting the 15 kHz sequential scanning signal may affect the test signal.

General

* Power requirements:
RVP-411DS, CHP-411D: 120 V AC, 50/60 Hz
RVP-411DMS, CHP-411DM: 220 – 240 V AC, 50/60 Hz

* Power consumption:
RVP-411DS, CHP-411D: 300 W, 2.8 A
RVP-411DMS, CHP-411DM: 300 W, 1.4 A

Operating temperature: 5°C to 40°C

Operating humidity: 30% to 85% (free of condensation)

* Dimensions:
RVP-411DS/411DMS: Approx. 830 × 641 × 1044 mm (w/h/d) (32 ¾ × 25 ⅛ × 41 ⅛ inches)
CHP-411D/411DM: Approx. 687 × 469 × 465 mm (w/h/d) (27 ⅛ × 18 ½ × 18 ⅜ inches)

* Mass:
RVP-411DS/411DMS: Approx. 75 kg (165 lb 6 oz)
CHP-411D/411DM: Approx. 47 kg (103 lb 10 oz)

Accessories supplied:
Power cord (1)
SIRCS cord (1)
Operating Instructions (1)
Brackets (2) (CHP-411D/411DM only)
Screws (4) (CHP-411D/411DM only)

Design and specifications are subject to change without notice.

* RVP-411D/411DM:

Projected picture size	41 inches measured diagonally
Screen	Black stripe, 0.78 mm pitch
Luminance	ANSI (cd/m²)[1]: 260 cd/m² Peak: 600 ft-L (2056 cd/m²)
Light output	ANSI lumen[1]
Power requirements	RVP-411D: 120 V AC, 50/60 Hz RVP-411DM: 220 - 240 V AC, 50/60 Hz
Power consumption	RVP-411D: 300 W, 2.8 A RVP-411DM: 300 W, 1.4 A
Dimensions	Approx. 836 × 641 × 1022 mm (w/h/d) (33 ×25 ⅛ ×40 ¼ inches) Screen frame: 1.8 mm (1/16 inches)
Mass	Approx. 82 kg (180 lb 12 oz)

Optional accessories

Rear screen
VPS-411R (diffuser panels L and F without frame)
VPS-411RF (with frame, 1.7 mm seam)
VPS-415RF (with frame, 0.2 mm seam)

System control kit PWK-411D (including the remote control unit RM-PJ1292)

Base stand PWR-B411A

Dual position beam PWR-P412A

Triple position beam PWR-P413A

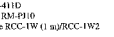
Video input board PWB-411D

Remote control receiver RM-PJ10

RS-422 connecting cable RCC-1W (1 m)/RCC-1W2 (1.2 m)

Signal assignment

REMOTE IN/OUT connector (D-sub 9-pin)



Pin No.	Signal	Input/Output
1	Frame Ground	–
2	Transmit (–)	Output
3	Receive (+)	Input
4	Receive Common	–
5	N.C.	–
6	Transmit Common	–
7	Transmit (+)	Output
8	Receive (–)	Input
9	Frame Ground	–

RS-422 format

SONY

3-856-141-14 (1)

Projection Wall System

Installation Manual for Dealers
Before operating the unit, please read this manual thoroughly and retain it for future reference.

RVP-411DS/411DMS Projection Wall Unit
CHP-411D/411DM Projection Wall Chassis

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Sony Corporation Printed in Japan

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About This Manual

This manual covers two types of models: RVP-411DS/411DMS and CHP-411D/411DM. The basic operations are the same but the following are different.

RVP-411DS/411DMS: Cabinet and chassis model without screen
Use the unit with the optional screen.

CHP-411D/411DM: Chassis model with chassis only

The RVP-411DS/411DMS with the optional VPS-411RF rear screen attached is used for the illustration purpose.
"Projector" is used in this manual as a general term for the above two models and the models with screen.

* RVP-411D/411DM: Cube model with screen, cabinet and chassis

Features

About the Models RVP-411DS/411DMS and CHP-411D/411DM

RVP-411DS/411DMS

The RVP-411DS/411DMS is a projection wall unit to compose a projection wall system. Use the unit with the optional VPS-411RF (1.7 mm seam) or VPS-415RF (0.2 mm seam) rear screen. The expected performance cannot be obtained if the unit is used with other screens.

CHP-411D/411DM

The CHP-411D/411DM is a product equivalent to the chassis of the RVP-411DS/411DMS and RVP-511DS/511DMS. The unit is designed for use with either a 41-inch or 50-inch screen.
When it is used with a 50-inch screen, however, certain readjustments such as registration adjustment are required. For a 50-inch screen, use either the optional VPS-511RF (1.7 mm seam) or VPS-515RF (0.2 mm seam) rear screen only.

Main Features

Composite video and analog color difference signals acceptable

The projector can project a variety of input sources when the optional PWB-411D video input board is used, as it accepts the composite video signals (NTSC, PAL, SECAM and NTSC4.43), analog color difference signal and 15K analog RGB signal.

Point-scan input capability

The analog RGB signals (31.25 kHz/50 Hz, 31.25 kHz/100 Hz, 31.5 kHz/60 Hz, 31.5 kHz/120 Hz) can be input to the RGB IN connectors on the projector. When an optional video input board is used, the analog RGB signals (15.625 kHz/50 Hz, 15.75 kHz/60 Hz) can be input.

Flicker-free

When an optional video input board is used, a high-quality picture without flicker can be obtained, since the analog 15K RGB, analog color difference and composite video signals with 50 Hz and 60 Hz vertical frequency are processed to field-doubled signals when input to the projector.

Narrow screen frame

If you use the optional VPS-411RF (1.7 mm seam) or VPS-415RF (0.2 mm seam) rear screen, obstruction of the display can be minimized when the projectors are stacked.

Light weight and short depth

The projector can be handled easily thanks to its light weight and placed in compact spaces because of its short depth.

REMOTE connector to connect the RS-422 interface for interactive communication

The various controls can be operated with the connected computer. Linked connection of the several projectors can also be made by connecting them to REMOTE IN and OUT connectors.

Newly developed registration adjustment

A newly developed procedure enables you to adjust registration precisely, rapidly and simply.

Features

Linked automatic brightness limiter

The Linked ABL function that can be activated by using the optional linked ABL cable synchronizes the brightness limiting point among the connected projectors.

Skeletal structure

The projector has a skeletal structure that provides adequate air circulation and prevents internal heat build-up inside the projector. This structure facilitates transportation and stacking of the projectors using a forklift.

Multiple memories for the adjusted data

The adjusted registration data can be stored in eight different memories. This allows the input signals of different frequencies to be adjusted precisely. The adjusted data for size, shift, blanking, etc. are stored for each input signal.

Three-digit index number

You can address each projector with a three-digit index number. You can also address a group of projectors to control them together.

Wired or wireless remote control

You can control all adjustments remotely with the RM-P1292 remote control unit (supplied with the PWK-411D system control kit) connected to the projector. You can control multiple projectors with a single remote control, separately or simultaneously. You can also use the optional RM-P110 remote control receiver as a wireless remote control.

Free layout/easy jointing

The cube style projection wall units provide a variety of projection-wall displays, e.g. four (2 × 2) or nine (3 × 3) screens, several units lined up horizontally or vertically.
You can join the projectors simply by tightening the screws.

Easy maintenance

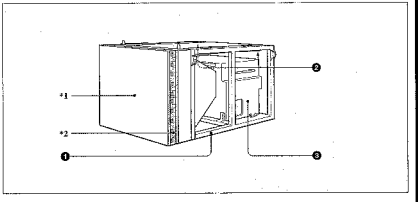
The projector screen can be removed from the front of the projector for easy maintenance.

Stacking up to five projectors vertically (up to 10 projectors with reinforcement)

The projector is designed to be loaded with up to five projectors. You can stack six to ten projectors if you reinforce them.

Location and Function of Controls

Front



The illustration above shows the RVP-411DS/411DMS with the optional VPS-411RF screen attached.

1 Cabinet (RVP-411DS/411DMS only)

2 Screen lock knob (RVP-411DS/411DMS only)

3 Chassis

* RVP-411D/411DM

1 Cabinet

2 Screen lock knob

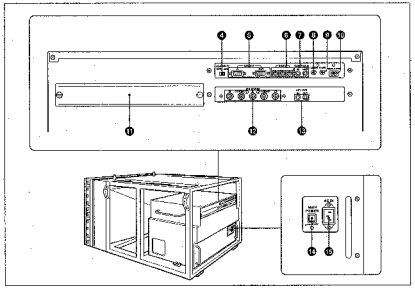
3 Chassis

***1 Screen**

***2 Screen holder**

Location and Function of Controls

Rear



❹ TERMINATE switch
Sets to ON when the REMOTE IN connector is connected to the RS-422 interface and nothing is connected to the REMOTE OUT connector.

❺ REMOTE IN/OUT connectors (D-sub 9-pin)
Connect the RS-422 interface for interactive communication with the external equipment.

❻ INDEX NO. switches
When two or more projectors are connected, set the index number of each projector.

❼ CONTROL S IN/OUT jacks (minijack)
Connect to the CONTROL S jacks of other Sony equipment. It is then possible to control the whole system with a single Remote Commander.

❽ STANDBY indicator
When MAIN POWER is on, the red indicator lights up indicating the unit is in standby mode. When the red indicator is lit, the projector can be turned on/off with the remote control unit (not supplied).

❾ POWER indicator
Green indicator lights up when the power is turned on.

❿ Error code indicator
When an operational error occurs, the error code is indicated. "00" indicates no error.

⓫ Optional video input board attachment part
Optional video input board can be attached.

⓬ 31K RGB IN connectors (BNC connector)
Connect to the 31K RGB output connectors.

⓭ ABL LINK IN/OUT jacks (minijack)
Connect to the ABL LINK jacks on other projectors to activate the linked ABL function.

⓮ MAIN POWER switch

⓯ AC IN socket
Connect the supplied power cord.

Specifications

Optical characteristics

Projection system: 3 picture tubes, 3 lenses, Horizontal inline system, rear projection type

Picture tube: 7-inch (5.5-inch raster size) monochrome tubes, with coolant sealed

Projection lens: F1.1/77 mm

* Projected picture size:
RVP-411DS/411DMS: 41 inches measured diagonally

* Luminance: RVP-411DS/411DMS with the VPS-411RF screen:
ANSI (cd/m²) [1]: 280 cd/m²
Peak 600 ft-L (2056 cd/m²)

* Light output: ANSI lumen [1]: 110 lm

Electrical characteristics

Color system: Analog RGB signal
When the optional PWB-411D video input board is used: analog color difference signal, PAL, SECAM, NTSC and NTSC4.43

Resolution: 800 × 560 dots (RGB input at 31.25 kHz/50 Hz)

Frequency range:
30 MHz, −3 dB

Input frequency: 31.25kHz/50Hz/1:1, 31.25kHz/100Hz/2:1, 31.5kHz/60Hz/1:1, 31.5kHz/120Hz/2:1 (Horizontal frequency/vertical frequency/interlace ratio)
allowance: ±1 %
15.625kHz/50Hz/2:1, 15.75kHz/60Hz/2:1 (when the optional PWB-411D video input board is used)

Test signal [2]: Cross hatch/patch (fine/diagonal/circle/dot/H pattern/ME/window/all white/black

* KVP-411D/411DM:

Projected picture size	41 inches measured diagonally
Screen	Black stripe, 0.78 mm pitch
Luminance	ANSI (cd/m²) [1]: 260 cd/m²
	Peak 600 ft-L (2056 cd/m²)
Light output	ANSI lumen [1]

Inputs

RGB signal
R, G, B: 0.7Vp-p±2dB, 75 ohms terminated
Sync on G signal: 1.0Vp-p±2dB, 75 ohms terminated, sync negative
HD, VD: 1.0–4.0Vp-p, 75 ohms terminated, positive/negative
SYNC: composite sync, 1.0–4.0 Vp-p, 75 ohms terminated, positive/negative

Y, R-Y, B-Y signal (when an optional video input board is attached)
Y: 1.0Vp-p±2dB, 75 ohms terminated, sync negative
R-Y, B-Y: 0.7Vp-p±2dB, 75 ohms terminated

Video signal (when an optional video input board is attached)
Composite video: BNC connector, 1.0Vp-p±2dB, 75 ohms terminated, sync negative
Y: BNC connector, 1.0Vp-p±2dB, 75 ohms terminated, sync negative
C: BNC connector, burst level, 0.286Vp-p±2dB, 75 ohms terminated (NTSC)
0.3Vp-p±2dB, 75 ohms terminated (PAL)
REMOTE IN: D-sub 9-pin connector (See "Signal assignment" on page 3-2.)
CONTROL S IN: minijack
ABL LINK IN: minijack

Outputs
REMOTE OUT: D-sub 9-pin connector (See "Signal assignment" on page 3-2.)
CONTROL S OUT: minijack
ABL LINK OUT: minijack

1) ANSI lumen and cd/m² are measuring methods of American National Standard IT 7.215.
2) Inputting the 15 kHz sequential scanning signal may affect the test signal.

RVP-411/411D/411DM

Specifications

General

* Power requirements
  - RVP-411DS, CHP-411D: 120 V AC, 50/60 Hz
  - RVP-411DMS, CHP-411DM: 220–240 V AC, 50/60 Hz
* Power consumption
  - RVP-411DS, CHP-411D: 300 W, 2.8 A
  - RVP-411DMS, CHP-411DM: 300 W, 1.4 A

Operating temperature
5°C–40°C

Operating humidity
30%–85% (free of condensation)

* Dimensions
  - RVP-411DS/411DMS: Approx. 830 × 641 × 1044 mm (w/h/d) (32 3/8 × 25 1/4 × 41 1/8 inches)
  - CHP-411D/411DM: Approx. 687 × 469 × 465 mm (w/h/d) (27 1/8 × 18 1/2 × 18 3/8 inches)

* Mass
  - RVP-411DS/411DMS: Approx. 75 kg (165 lb 6 oz)
  - CHP-411D/411DM: Approx. 47 kg (103 lb 10 oz)

Accessories supplied
Power cord (1)
SIRCS cord (1)
Brackets (2) (CHP-411D/411DM only)
Screws (4) (CHP-411D/411DM only)

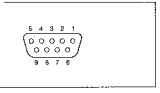
Design and specifications are subject to change without notice.

Optional accessories

Rear screen
VPS-411R (diffuser panels L and F without frame)
VPS-411RF (with frame, 1.7 mm seam)
VPS-415RF (with frame, 0.2 mm seam)
System control kit PWK-411D (including the remote control unit RM-PJ1292)
Base stand PWR-B411A
Dual position beam PWR-P412A
Triple position beam PWR-P413A
Video input board PWB-411D
Remote control receiver RM-PJ10
RS-422 connecting cable RCC-1W (1 m)/RCC-1W2 (1.2 m)

Signal assignment

REMOTE IN/OUT connector (D-sub 9-pin)



Pin No.	Signal	Input/Output
1	Frame Ground	–
2	Transmit (–)	Output
3	Receive (+)	Input
4	Receive Common	–
5	N.C.	–
6	Transmit Common	–
7	Transmit (+)	Output
8	Receive (–)	Input
9	Frame Ground	–

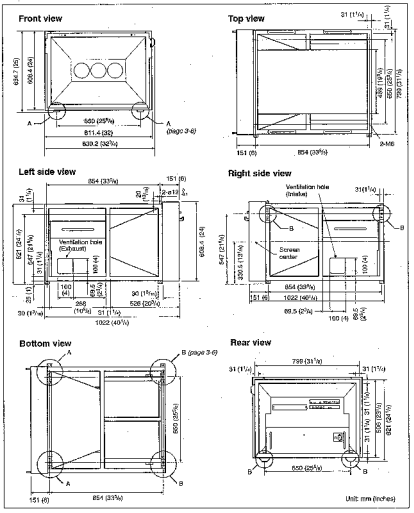
RS-422 format

* RVP-411D/411DM:

Power requirements	RVP-411D:120 V AC, 50/60 Hz RVP-411DM:220 - 240 V AC, 50/60 Hz
Power consumption	RVP-411D:300 W, 2.8 A RVP-411DM:300 W, 1.4 A
Dimensions	Approx. 836 ×641 × 1022 mm (w/h/d) (33 × 25 1/4 × 40 1/4 inches) Screen frame 1.8 mm (1/16 inches)
Mass	Approx. 82 kg (180 lb 12 oz)

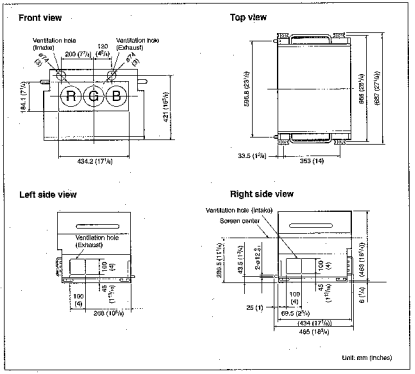
Dimensions

RVP-411DS/411DMS



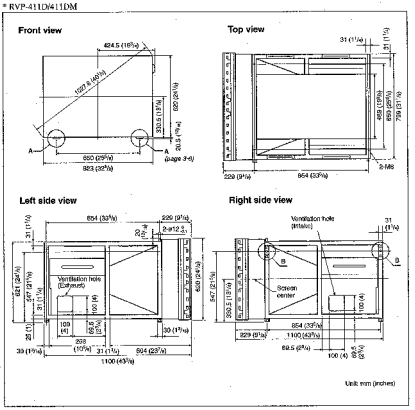
Dimensions

CHP-411D/411DM

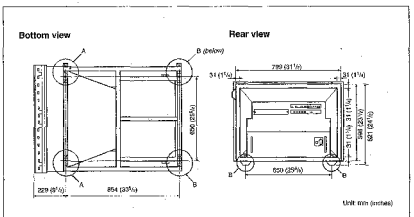


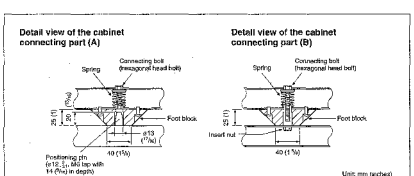
RVP-411DS/411DMS with the VPS-411RF Rear Screen

* RVP-411D/411DM



Dimensions




Detail view of the cabinet connecting part (A)
Detail view of the cabinet connecting part (B)
Connecting bolt (hexagonal head bolt)
Spring
Foot block
Insert nut
40 (1⅝)
Positioning pin (ø12 [½], 6⅝ long with 14 (9/16) in depth)
Unit: mm (inches)

Required Floor Strength

Make sure to install the projector horizontally on a floor strong enough to support the weight. Installation of multiple projectors in an unstable location may cause serious accidents.
The projector is designed to be loaded with up to five projectors. You can stack six to ten projectors if you reinforce them.

Load Calculation

A projector weighs 82 kg (180 lb 12 oz) when the VPS-41 | RP screen is attached. Calculate the load on the floor as follows:

[82 kg × A (Number of projectors)] + Weight of the projection wall stand*

[0.91 (Area of a projector) × B (Number of projectors arranged horizontally)]

= Load on the floor (kg/m²)

* The stand differs in weight depending on its specification.

Calorific Value

Supposing that the power consumption of a projector is 400 W with some allowance and that almost all of the power consumption is converted to calorific power, calculate the calorific value of the projection-wall system.

Calorific Value Calculation

Power consumption (W) × 0.86 = Calorific value (kcal/h)

Conversion to B.t.u.

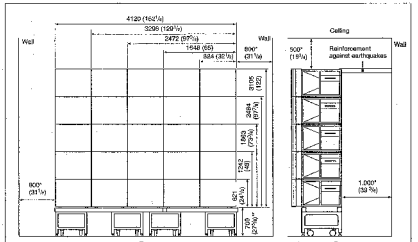
Power consumption (W) × 3.413 = B.t. u./h

Example: When a sixteen- (4 × 4) screen system is used, the total calorific value is

400 (W) × 16 (number of projectors) × 0.86 = 5,504 (Kcal/h)

Air conditioning requirements will likely rise.

Installation Space



* Leave the spaces of 800 mm from the walls on both sides, of 1,000 mm from the wall on the back and of 500 mm from the ceiling, for the purpose of maintenance and adequate ventilation.
** Shows the height of a stand in standard use.

Unit: mm (inches)

Stacking

The projector is designed to be loaded with five units. Reinforcement of the projector enables it to be loaded with six to ten units.

Note on stacking

Depending upon the materials of the floor or walls, installation methods vary. Be sure to consult qualified Sony personnel or a construction engineer.

Temperature and Humidity Condition

Make sure to install and store the projector within the following temperature and humidity range. Installation or store under other ranges may cause abnormal picture display or damage to the projector.

- Operating temperature: 5°C – 40°C
- Operating humidity: 30% – 85% (free of condensation)
- Storage temperature: – 10°C – + 50°C
- Storage humidity: 30% – 90%

Note

Install the projector where
- moisture condensation will not occur.
- it will not be exposed to dripping water.
- it will not be exposed to dust.
- it will not be affected with strong magnetism.

When Moisture Condensation Has Occurred

If the projector is used in winter or in a cold location, moisture may condense on the projector screen or inside the lens, causing a misty picture. In this case, leave the projector on about 1 to 2 hours until the normal picture can be displayed. When you are using the projector under such conditions, turn on the power of the projector 1 or 2 hours before use.

Installing the Projector Other Than Indoors

This projector is designed to be used indoors. If using it outdoors is required, be careful not to expose it to:

- water, dust and wind.
- temperature and humidity changes.
- sunlight that hits the screen surface.

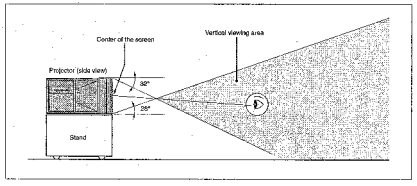
When installing the projector outdoors, make the installation conditions as similar as possible to that of indoor installation, that is, enclose the installation location or cover with a roof.
When installing it outdoors, make sure to consult with the Sony dealer.

Appropriate Viewing Area

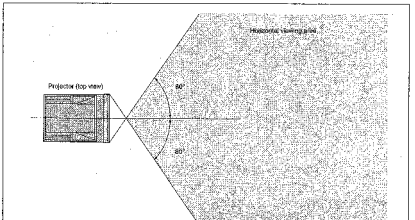
The following values refer to cases with the VPS-411RF screen.

When Using One Unit

Vertical Viewing Area



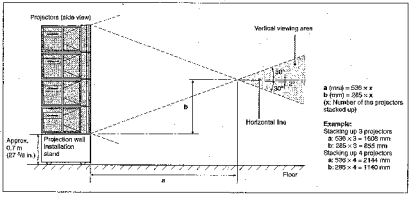
Horizontal Viewing Area



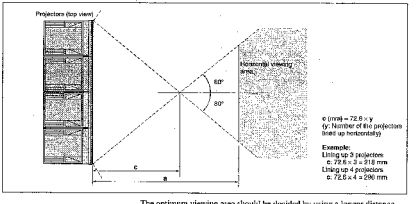
When Using Two or More Units

Example: When 16 units (4 × 4 screens) are installed approximately 0.7 m (27 7/8 in.) off the floor

Vertical Viewing Area



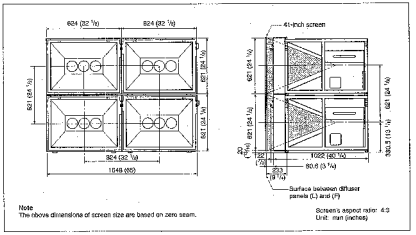
Horizontal Viewing Area



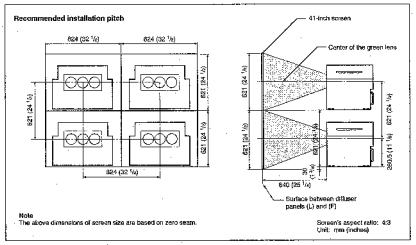
The optimum viewing area should be decided by using a longer distance **(a)** or **(c)**. When16 units (4 × 4) are installed, for example, distance **(a)** is longer than **(c)** and the optimum viewing area is as shown in gray areas in the illustrations above.

Optical Distances

Optical distances and pitch between units for the RVP-411DS/411DMS



Optical distances and pitch between units for the CHP-411D/411DM



Room Lighting

To obtain the best picture, pay attention to the following:

- Light does not reflect on the screen, unlike a cathode-ray tube. If, however, the screen is exposed directly to sunlight or a spot light, the picture becomes whitish and you may not obtain correct color.
- If you cover the screen with a protective glass or acrylic board, it reflects light.

Current Consumption

As the power consumption of this projector is 300 W, although it changes depending on the use conditions of the projector, the current consumption to the supply voltages is as follows:

Supply voltage	Current consumption
120 V	Approx. 2.6 A
220 V	Approx. 1.5 A
240 V	Approx. 1.4 A

Considering rush current when turning on the power, use the power-on delay function to prevent all the connected projectors from turning on at the same time.

See page 7-8 for the power-on delay function.

Terrestrial Magnetism

Depending on the installation direction, the projected picture may shift on the screen. This is caused by the terrestrial magnetism. Be sure to adjust the shift of the picture after installation of the projector.
The projected picture may also be affected by:

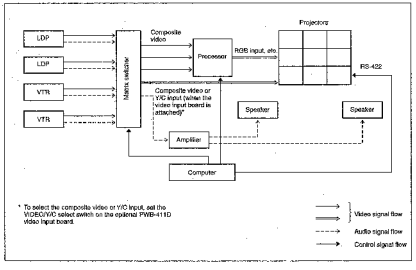
- steel frames of buildings
- electric wires laid on the floor
- a large speaker system
- a metallic stand or picture frame, etc.
- a high-voltage cable

If you install the projector near the above, use the magnetic shield to exclude magnetism.

System Connections

System Connection Example

The basic system connection is shown below.



Acceptable Signal Specifications

The projector accepts signals with the following specifications. Signals with other specifications may not be projected correctly.

Input signal Analog RGB signal
(When the optional PWB-411D video input board is attached, the composite video signals of the NTSC, PAL, SECAM and NTSC4.43 color systems and the analog color difference signal can be input.)

Input frequency
31.25 kHz/50 Hz/1:1, 31.25 kHz/100 Hz/2:1,
31.5 kHz/60 Hz/1:1, 31.5 kHz/120 Hz/2:1
(Horizontal frequency/vertical frequency/interlace ratio)
allowance: ±1%

15.625 kHz/50 Hz/2:1, 15.75 kHz/60 Hz/2:1 (when the optional PWB-411D video input board is attached)

Inputs

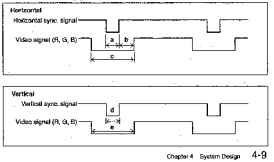
RGB input
R, G, B: 0.7Vp-p±2dB, 75 ohms terminated
Sync on G: 1.0Vp-p±2dB, 75 ohms terminated, sync negative
HD, VD: 1.0–4.0Vp-p, 75 ohms terminated, positive/negative
SYNC: Composite sync, 1.0–4.0Vp-p, 75 ohms terminated, positive/negative

Y, R-Y, B-Y input (when the optional PWB-411D video input board is attached)
Y: 1.0Vp-p±2dB, 75 ohms terminated, sync negative
R-Y, B-Y: 0.7Vp-p±2dB, 75 ohms terminated

Video input (when the optional PWB-411D video input board is attached)
Composite video: BNC connector, 1.0Vp-p±2dB, 75 ohms terminated, sync negative
Y: BNC connector, 1.0Vp-p±2dB, 75 ohms terminated, sync negative
C: BNC connector, burst level
0.286Vp-p±2dB, 75 ohms terminated (NTSC)
0.3Vp-p±2dB, 75 ohms terminated (PAL)

Timing chart (31K RGB IN connectors on the projector)

a Horizontal sync. signal: more than 2.25µs
b Horizontal back porch: more than 2.25µs
c Horizontal blanking signal: more than 6.0µs
d Vertical sync. signal: more than 2H
e Vertical blanking signal: more than 1000µs



Connecting Cords

Signal cords

Use a 3C-2V coaxial cord for a connecting cord of less than 30 m length, and a 5C-2V coaxial cord for the cord of 30 m–50 m length. If you use a cord of more than 50 m length, use the cord compensator.

SIRCS* cord

The optional PWK-411D system control kit contains a 15 m SIRCS* cord with miniplugs. You can also use a shield cord with low capacity (less than 100 pF/m for 1 kHz) equipped with miniplugs.
This projector is designed to connect a SIRCS cord of up to 20 m length.

* SIRCS is an abbreviation of the Standard Code for Infrared Remote Control.

RS-422 communication cable

The projector is equipped with a RS-422 (REMOTE) connector to connect a computer. *See page 3-2 for its signal assignment.*
The cable should be equipped with a male plug to connect to the female connector on the REMOTE IN connector.

Checking the Installation Conditions

Before installing the projector(s), check the following:

① Dimensions of the installation place
② Floor conditions
Check that the floor is horizontal and strong enough to support the projector(s), and is not uneven.
③ Location of the wall outlet
④ Installation location
Check if the floor and wall need to be reinforced.
Check the transportation route and the passage width, and the dimensions and weight restrictions of any elevator to be used.
⑤ Configuration, installation location and specifications of the external equipment to be connected to the projector
⑥ Model number and the number of equipment to connect
⑦ Check that the lens cap is removed.

Packing size/mass

RVP-411DS/411DMS
Packing size: 930 × 920 × 1150 mm (36⅞ × 36¼ × 45⅜ inches) (w/h/d)
Mass: Approx. 97 kg (213 lb 14 oz)

CHP-411D/411DM
Packing size: 560 × 592 × 750 mm (22⅛ × 23⅜ × 29⅝ inches) (w/h/d)
Mass: Approx. 51 kg (112 lb 7 oz)

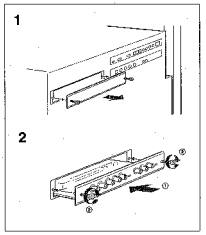
Mass of the RVP-411DS/411DMS with the recommended screen
With the VPS-411RF: Approx. 81 kg (839 lb 15 oz)
With the VPS-415RF: Approx. 79 kg (835 lb 9 oz)

***RVP-411D/411DM**
Packing size: 930 × 920 × 1150 mm (36⅞ × 36¼ × 45⅜ inches) (w/h/d)
Mass: Approx. 103 kg (227 lb 1 oz)

Note
When transporting the RVP-411D/411DM, make sure to remove the screen holder from the cabinet (the screen lift attached).

Using the Optional Video Input Board

Attaching the Video Input Board

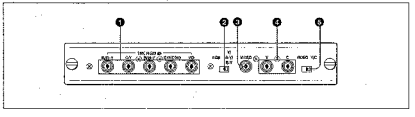


When the optional PWB-411D video input board is used, composite video signals (PTSC, PAL, SECAM and NTSC4.43), 15K analog RGB signal and analog color difference signal can be input to the projector.

1 Remove the two screws on the panel of the optional video input board attachment part to remove the panel.

2 Attach the optional video input board.
① Push in the board so that it fixes tightly to the attachment part.
② Tighten the two screws.

Identifying the Parts on the Video Input Board



1 15K RGB IN connectors (BNC connector)
R/R-Y, G/Y, B/B-Y, SYNC/HD, VD
Inputs the 15K analog RGB or analog color difference signal.

2 RGB / Y/R-Y/B-Y select switch
Sets to RGB when the15K analog RGB signal is input and to Y/R-Y/B-Y when the analog color difference signal is input.

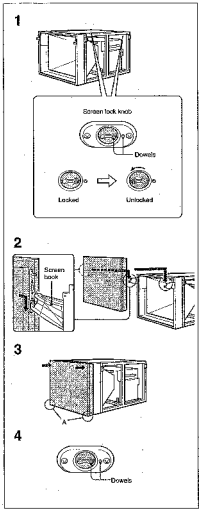
3 VIDEO input connector (BNC connector)
Inputs the composite video signal.

4 Y/C input connectors (BNC connectors)
Inputs the Y/C separate video signal.

5 VIDEO / Y/C select switch
Selects the composite video or Y/C input signal.

About the Screen

Attaching the Screen



Attach the optional VPS-411RF or VPS-415RF screen to the projection wall unit.

1 Turn the screen lock knobs on both sides of the projector while pushing them to unlock.

2 Push to protrude the screen hooks on both sides and align the two projections of both screen hooks with the holes on the reverse of the screen frame. Then push the screen down slowly.

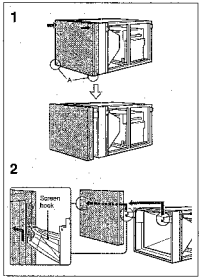
3 Push the upper sides of the screen frame gently until it clicks to fit in.

4 Turn the screen lock knobs until the two dowels on the knob are aligned to lock the screen.

CAUTION
- Do not hold the screen hooks on the cabinet when stacking the projectors at a high place. You may fall and injure yourself.
- Do not pull the lower part of the screen frame (around A) forcibly after it is fitted. If do so, the screen hooks may break and the screen frame cannot be locked.

About the Screen

Removing the screen



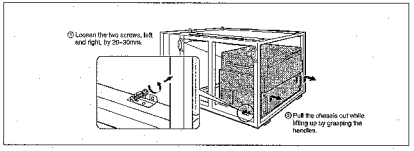
The screen lock knobs on both sides should be unlocked.
Refer to step 1 on page 5-3.

1 Push the upper sides of the screen frame to release the push catches.
The screen frame is automatically released.

CAUTION
When removing the screen frame, do not pull the lower part of the screen frame (around A) forcibly. If do so, the screen hooks may break and the screen frame cannot be locked.

2 Lift the frame upward to remove the screen.
Make sure not to touch the screen frames on other projectors.

Removing the Chassis



Stacking the Projectors

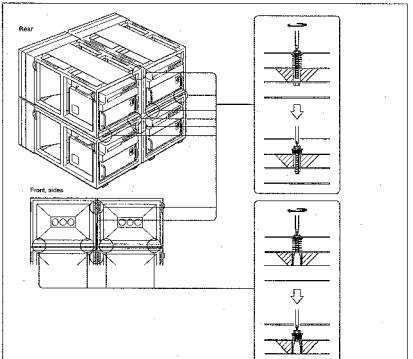
- Use a forklift or similar device to stack the projectors for a projection-wall display.
- Reinforcement is required when you stack more than six projectors vertically.

Before jointing the projectors

Before jointing, adjust the height of the projectors and take measures so that light does not come through a joint, if required *(page 5-6)*.

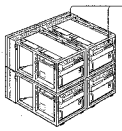
Jointing the Projectors

When you stack the projectors, make sure to tighten the screws on both the rear and front sides of each projector.



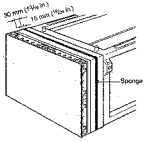
Stacking the Projectors

CAUTION

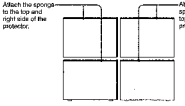

Never climb on to the upper front of the projector or the chassis. You may fall and injure yourself or damage to the projector may occur.

If Outdoor Daylight Comes through the Joints

Attach the 5 mm wide black sponge to the sides required on the screen brackets.



Example: 2 × 2 units (4 screens) projection wall display



Setting the Index Number

To address the projector, set an ID (index) number from 000 to 999 on each projector. You can address the projectors in the following two ways:

① **Setting an address ID number on an individual projector**
You can set the desired ID number of a three-digit address number (000–999) on each projector.

② **Setting a group ID number on a group of the projectors**
You can set the group ID number on a group of the projectors in addition to the address ID number. The group ID number enables them to be controlled simultaneously. For example, you can mute only the left half of the projection wall screen.

Setting the ID Numbers

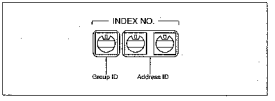
Set the ID and group numbers with the INDEX NO. switches on the rear panel of the projector.

To set the address ID number on an individual projector

Set the desired number from 000 to 999 on a three-digit address number.

To set the group ID number

The hundreds digit of a three-digit address number is used as a group ID number. Assign the hundreds digit to the group ID number, and the ones and tens digits to the address ID number in a group.

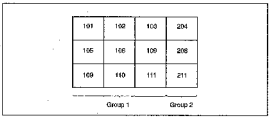


Chapter 5

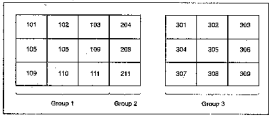
Setting the Index Number

Setting examples for the group ID

Example 1: 12 units (3 × 4 screens)



Example 2: System with 12 units (3 × 4 screens) and 9 units (3 × 3 screens)



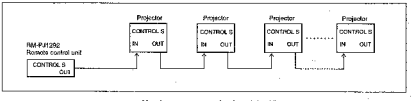
Connecting the Projectors

Connecting the AC Power Cord

Fully insert the supplied 3-pin AC power cord into a wall outlet. Fasten the cord to the projector with the supplied band for a tight connection.

Connecting the SIRCS Cord Supplied with the System Control Kit

Connecting the projectors as shown below using the supplied SIRCS cords (miniplug ↔ miniplug, 1m) allows you to control multiple projectors with the optional remote control unit.



Use the remote control unit and the 15 m cord with miniplugs supplied with the PWK-411D system control kit.

Connecting Signal Cords

Bund the cords together near the plugs so that the connectors are not loaded with the cord's weight or tension. Then fasten the signal cords to the projector with the supplied band well away from the AC power cord. Use the cords of the same length.

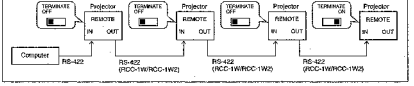
When attaching the optional PWB-411D video input board, use the RGB / Y/R-Y/B-Y select switch on the board to select the 15K RGB or Y/R-Y/B-Y input signal, and set the VIDEO / Y/C select switch on the board to select the composite video or Y/C video input signal.

Connecting the Projectors

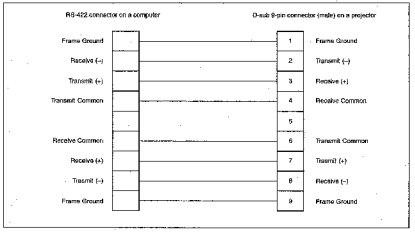
Connecting the RS-422 Communication Cable

Use the RCC-1W/RCC-1W2 connecting cables between the projectors. Connect them as shown below. Set the TERMINATE switch on the rear panel of the last projector to ON. Between the Receive (+) and (–) terminals on the computer, terminate at 120 ohms.
For connecting the computer and the projector, use the cable of 120 ohms characteristic impedance.

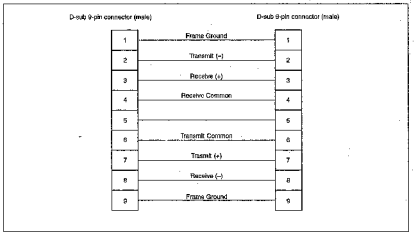
Example: when 4 projectors are connected



Signal assignment of the RS-422 cable between a computer and a projector



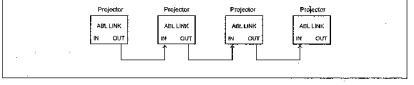
RS-422 cable between the projectors (not supplied, RCC-1W, etc.)



Connecting the Linked ABL Cable

Connect the projectors using the optional linked ABL cables (minuplug ⟷ minuplug) as shown below. Set ABL LINK on the PAGE 3 display to ON for each projector. *(See page 6-49.)*

Example: when 4 projectors are connected



Remote Control Operation

All of the adjustments except focus adjustment can be carried out by using the RM-PJ1292 remote control unit (supplied with the PWK-411D system control kit). When using multiple projectors as a projection wall, by setting index numbers, all the projectors can be operated separately or simultaneously with one remote control unit.

Since the RM-PJ1292 is an infrared type, wireless use is possible if the RM-PJ10 remote control receiver is used.
However, in order to correctly control the projectors, connecting the projector and the remote control unit with the remote control cable supplied with the system control kit is recommended.

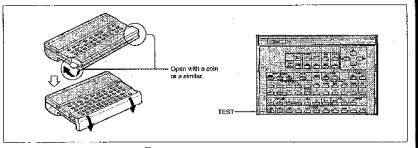
Preparation

1 Insert three size AA (R6) batteries with the polarity lined up correctly. *(See page 6-2.)*

2 Connect the remote control unit to the projector. *(See pages 6-3 and 6-4.)*

3 Press the MAIN POWER switch on the projector.

4 Remove the panel cover of the adjustment keys.
The adjustment keys are usually covered to keep them away from the user serviceable keys. Remove the panel cover only when you use the adjustment keys.



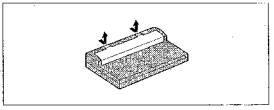
5 Keep pressing the TEST key for 5 seconds.
The display will appear.

6 Press the ▲ key.
The protection on the adjustment keys is cancelled and the adjustment keys will function. After adjustment, activate the protection again. *(See page 7-6.)*

Remote Control Operation

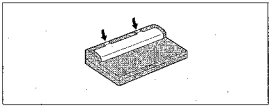
Battery Installation

1 Push to open the lid.



2 Install three AA (R6) batteries with the correct polarity.

3 Replace the lid.



Notes on the batteries

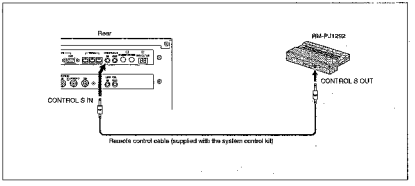
- If the projector does not operate properly, the batteries might be worn out. Replace all three of them with new batteries.
- The life of the batteries depends on frequency of usage and how often you use the LIGHT button. If they wear out quickly, replace them with new alkaline batteries.
- To avoid damage from possible battery leakage, remove the batteries when the remote control unit will not be used for a long time.

For wireless operation

- This projector is not equipped with the remote control detector. For wireless operation, use the RM-PH10 remote control receiver (not supplied).
- Operable range is limited. The shorter the distance between the remote control unit and the projector, the wider the angle within which the remote control unit can control the projector.

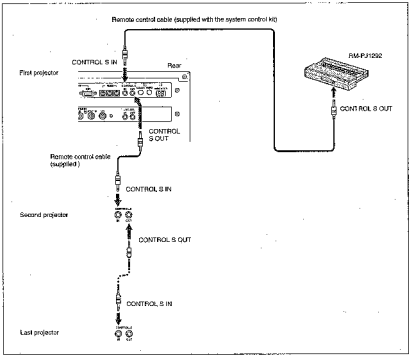
Connecting the Remote Control Unit to the Projector

When using one projector



Remote Control Operation

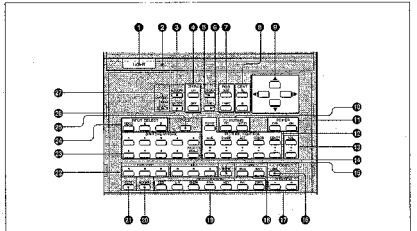
When using multiple projectors



Note on the remote control cable

You can connect all the projectors in any order if they are connected to each other with the remote control cables as illustrated.

Keys on the Remote Control Unit



1 LIGHT button
Press to light key indicators.
If the keys are not operated within about 30 seconds the light automatically goes out.

2 Transmission indicator
The light goes on each time a key is pressed. When the indicator does not light, replace the batteries.

3 MEMORY key
Press to store various adjustment data into memory.

4 STATUS ON/OFF key
Press OFF to eliminate the "On-Screen display." Even in OFF mode, the PAGE display appears. Press ON to restore the on-screen display.

5 SECAM key
This key does not function with this projector.

6 C.B. key
This key does not function with this projector.

7 RGB SIZE/SHIFT key
Press to adjust the size and shift of the picture for RGB signal input.
SIZE: Press to enter the size adjustment mode. The size adjustment of the picture is performed using the four arrow keys.
▲...The key to expand the vertical size
▼...The key to reduce the vertical size
▶...The key to expand the horizontal size
◀...The key to redtuce the horizontal size
SHIFT: Press to enter the shift adjustment mode. The shift adjustment of the picture is performed using the four arrow keys.
The picture shifts according to the direction of the arrow.

❷ CENT R/B keys
Press to enter the centering adjustment mode of the red and blue.
R: Press to enter the red centering adjustment mode. The adjustment is performed with the four arrow keys.
B: Press to enter the blue centering adjustment mode. The adjustment is performed with the four arrow keys.

If you press R and B simultaneously, the projector is set to green centering adjustment mode.

❸ Arrow keys
The keys are used for various adjustment function.

❹ PJ MUTING keys
PIC: Press to cut off the picture. To restore the picture, press it again.
AUDIO: This key does not function with this projector.

❺ POWER ON/OFF keys
Press to turn on and off the projector.
To turn the projector off or on immediately after turning it on or off, wait for more than 3 seconds.

❻ PICTURE CONTROL keys
Press to adjust picture condition: hue, sharpness, brightness, color, and contrast. Press RESET to restore the standard levels.

❼ VOL (volume) +/– keys
Those keys do not function with this projector.

❽ ADJ R/G/B (adjust red/green/blue) keys
Press to select color to be adjusted when adjusting the registration.
R...Red signal
G...Green signal
B...Blue signal

❾ BLKG (blanking) key
Press to enter the blanking adjustment mode.
For details, see page 6-25.

❿ FOCUS MG key
This key does not function with this projector.

⓫ POSITION +/– keys
Used for registration and blanking adjustment.
For details, see page 6-25 and 6-26.

⓬ W/B (white balance) key
Press to enter the white balance adjustment mode.
BIAS: For cut off adjustment
GAIN: For drive adjustment

⓭ REGISTRATION keys
SIZE/LIN/SKEW/HOW/KEY/PIN
Press to select the desired item for registration adjustment.
The ZONE key does not function with this projector.
For details, see "Keys for Registration Adjustment" on page 6-23.

⓮ NORMAL key
Press to cancel the test patterns.

⓯ TEST key
Press to display the internal test patterns.
Each press of this button displays 10 patterns sequentially. In registration and white balance adjustment modes, appropriate patterns will be displayed for each adjustment.
For details, see "Test Patterns" on page 6-11.

⓰ CUT OFF keys
Press to select the color to be turned off when adjusting the registration. Press again to turn on the color.
R...Red signal
G...Green signal
B...Blue signal

⓱ SWITCHER/INDEX keys
When multiple projectors are connected, select the index number of the projector to be adjusted. To select, press the ENTER key ⓳ after pressing the number keys. When adjusting all of the projectors simultaneously, press the ENTER key after pressing 0 (ALL).

⓲ INPUT SELECT keys
Press to select the input signal.
VIDEO: to select the signal input from the VIDEO or Y/C connectors if the optional PWB-411D video input board is installed
To select the VIDEO or Y/C input signal, use the VIDEO / Y/C select switch on the PWB-411D video input board.
A: to select the signal input from the 15K RGB IN connectors if the optional PWB-411D video input board is installed
B: to select the signal input from the 31K RGB IN connectors

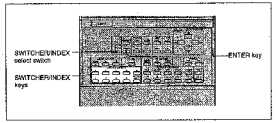
⓳ PAGE key
Press to display and switch the following five on-screen displays.
PAGE 1 (PICTURE CTRL): Displays current picture conditions; contrast, brightness, color, hue and sharpness.
PAGE 2 (INPUT SETTING): Displays the selected registration memory number, color temperature level and adjustable vertical shift range.
PAGE 3 (SET SETTING): Displays on-screen display language, ABL LINK ON/OFF and POWER ON DELAY ON/OFF.
PAGE 4 (SET INFO): Displays use time of red, green and blue CRTs.
PAGE 5 (SERVICE SETTING): Displays the duration of all white mode during a warm-up period and the SUB BRIGHT level.

⓴ ENTER key
In the case of a projection wall, when selecting a projector to be adjusted, press this key after pressing the SWITCHER/INDEX key ⓱. And, press this key when you want to display the ID (index) number of each projector on its screen.

㉑ SWITCHER/INDEX select switch
Always set this switch to INDEX.
If set to SWITCHER, the switch does not function with this projector.

Selecting Projector to Be Adjusted

Using the SWITCHER/INDEX and ENTER keys, select the number corresponding to the index number set on each projector.



1 Set the SWITCHER/INDEX select switch to INDEX.

2 Press the desired SWITCHER/INDEX keys and then the ENTER key.

The index number blinks on the screen for 3 seconds indicating that the projector can be adjusted.

- When the power of the system is turned on, all the projectors can be adjusted at the same time.
- To display the index numbers on the screen, press the ENTER key only. The index numbers of all the projectors will appear on their screens. At this time the number of the projector that can be adjusted will blink.

Selecting an individual projector's index number

Example: To select ID101
1 → 0 (ALL) → 1 → ENTER
Example: To select ID001
1 → ENTER
Example: To select ID011
1 → 1 → ENTER
Example: To select ID000
0 (ALL) → 0 (ALL) → 0 (ALL) → ENTER

Selecting a group ID

Example: To select the group of ID100–199
0 (ALL) → 1 (group number) → ENTER
Example: To select all the groups
0 (ALL) → ENTER

Adjustment Displays and Test Patterns

PAGE Displays

Press the PAGE key to display the following five on-screen displays. Adjustment can also be done on PAGE 1, 2, 3 and 5.
The displays will switch as follows every time the PAGE key is pressed:

PAGE 1 → PAGE 2 → PAGE 3 → PAGE 4 → PAGE 5
↑ ← Original screen ←

PAGE 4 and 5 are not displayed in user control mode.

PAGE 1 (PICTURE CTRL)

The picture conditions: CONTRAST, BRIGHT (brightness), COLOR, HUE and SHARP (sharpness) are displayed. No level indication shows that the control does not function with the current input signal. (In this case, the input signal is 31K RGB signal input from the INPUT-B section.)
To change the level, adjust by pressing ◀, ▶, ▲ and ▼ keys.
For details, see page 7-7.

PAGE 2 (INPUT SETTING)

REGI (registration) MEMORY (1 to 8)
Indicates the registration memory number to which the current input signal is assigned.
The registration adjustment data are stored in one of eight memory blocks according to the input signals of different types.
COLOR TEMP (temperature) (3200/6500/9300/PRESET)
Displays the color temperature setting. *For details, see page 7-1.*
V (vertical) SHIFT (Wide/Narrow)
Normally, set to Wide. However, when particular interlace scanning signals with various vertical scanning time are input, V jitter may occur. In this case, set to Narrow.
To change the setting, press the ▲ or ▼ key to make V SHIFT green, and select Wide or Narrow with the ◀ or ▶ key.
When the video, 15K RGB or color difference signal is input, V SHIFT is fixed to Narrow (indicated in white).

PAGE 3 (SET SETTING)

LANGUAGE (English/Francais/Deutsch/Italiano/Espanol)
The on-screen display language can be changed. To change, press the ▲ or ▼ key to make LANGUAGE green, and select the desired language with the ◀ or ▶ key.
ABL LINK (ON/OFF)
When multiple projectors are connected, you can make the multi-screen's brightness uniform. *For details, see page 6-49.*
POWER ON DELAY (ON/OFF)
When multiple projectors are connected, you can turn on the projectors sequencially one by one. *For details, see page 7-8.*

Adjustment Displays and Test Patterns

PAGE 4 (SET INFO)

The current use time of the red, green and blue CRTs are displayed.

PAGE 5 (SERVICE SETTING)

ALL WHITE MODE: You can change the duration of all white mode during a warm-up period.
For details, see page 6-15.
SUB BRIGHT: You can adjust the brightness uniformity when black is too strong due to the reflection of the sunlight. To adjust, press the ▲ or ▼ key to make SUB BRIGHT green, and adjust with the ◀ or ▶ key.
* **UNIFORMITY:** You can adjust the brightness uniformity at the screen corners. The brightness at the corners is higher with settings A, B and C, in ascending order. UNIFORMITY should normally be set to A or B. If it is set to C, brightness compensation will be effective for a bright image, but will cause inadequate uniformity for a dark image.

Messages on the Screen

Color codes

Four colors are used in the on-screen display.

Color	Meaning
Green	Function and condition
Cyan	Operation guide and messages
Yellow	Caution and error messages
White	Item not being adjusted, item not being selected on PAGE display

Error messages

When an error occurs, the following messages will be displayed.

Message	Meaning
Not applicable	The control does not function with the current input.
PIC MUTING	PIC MUTING is set to ON. Press PJ MUTING PIC key to cancel the PIC MUTING mode.
NO INPUT	No video or sync signal is input is the selected input mode.

Test Patterns

In each adjustment mode, an appropriate test pattern can be displayed. In addition, other test patterns can be displayed by pressing the TEST key.

All the test patterns

The outside bold line of the illustrations stands for the edge of the screen.

① **Cross hair**

② **Diagonal**

③ **Circle**

④ **Hatch (fine)**

⑤ **Dot**

⑥ **H pattern**

⑦ **ME**

⑧ **All white**

⑨ **Window**

⑩ **Black**

* This setting is not RVP-411D/411DM

Adjustment Displays and Test Patterns

Test Patterns in each mode

Mode		By pressing the TEST key, test patterns change as follows:
Normal		→ Cross hair → Diagonal → Hatch → Dot → H Normal ← Black ← Window ← White ← ME
Registration	SIZE LIN WAVE SKEW BOW KEY PIN WING	→ Cross hair → Diagonal → Circle Normal ← Hatch
White balance	GAIN BIAS	White → Window → Black → Normal
BLKG		Hatch → White → Normal
CENT RGB		Cross hair → Diagonal → Normal

Note

When the signal from the connected equipment is input, the test pattern cannot shift using the SHIFT key.

Signal Sources and Adjustment Equipment

The following equipment and signal sources are necessary for the adjustment.

Adjustment Equipment Required

- RM-P1292 Remote Control Unit
- Connecting cord with minijings (10–30 m)
- Signal generator (Astro Design VG-814, etc.)
- Measuring tape
- Color temperature meter (such as Minolta CS-100 colorimeter)
- Stepladder and binoculars when the screen is difficult to access.
- Moving picture source

Specifications of the signal from the video signal generator

Use the following signal when the video signal generator is used instead of the signal input source of the system.

Frequency: the same frequency as that used in the system

Sync signal: any of S on G, c/sync and H/V sync signals

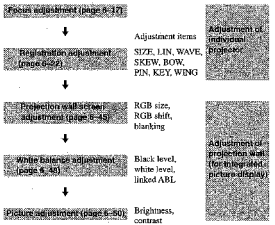
Test pattern: White 10%, 50% and 80% switchable (for white balance adjustment)

Hatch pattern (for wall projection screen adjustment)

General Flowchart of the Adjustments

Perform the adjustments after completing the installation and connections. Before the adjustments, turn on the projectors and allow them to warm up for 20 minutes or more to keep a stabilized display. *(See page 6-15.)*

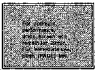
Flowchart of the Adjustments


Focus adjustment (page 6-17)
Registration adjustment (page 6-23)
Adjustment items
SIZE, LIN, WAVE, SKEW, BOW, PIN, KEY, WING
Adjustment of individual projector
Projection wall screen adjustment (page 6-39)
White balance adjustment (page 6-45)
Picture adjustment (page 6-50)
RGB size, RGB shift, blanking
Black level, white level, linked ABL
Brightness, contrast
Adjustment of projection wall (for multi-picture display)

Warming-up

Before Starting Adjustment

Before adjusting the registration, turn on the projector and allow it to warm up for 20 minutes.
The projector is designed with a warm-up period of about 20 minutes after turning on the power. During this period, it displays a white screen with the message shown below. The message will appear subsequently for 5 seconds every 30 seconds.



If you wish to see the picture immediately, press the PAGE key to cancel the warming up.
You may also set the projector for a shorter or no warming up period.
For details, see "Changing the Initialization Period" below.

Changing the Initialization Period

You can set the desired warm up time for the projector in 1 minute increments.

1 Set the remote control to the serviceman adjustment mode.
For details, see "Remote Control Operation" on page 6-1.

2 Press the PAGE key repeatedly until the PAGE 5 (SERVICE SETTING) display appears.

3 Press the ▼ or ▲ key to select ALL WHITE MODE.

4 Press the ◀ or ▶ key to set the desired minutes.
You can set the initialization period to 0 – 99 minutes.
▶: Increases by 1 minute.
◀: Decreases by 1 minute.

5 Press the PAGE key.
The display disappears.

To set the projector so that the signal input from the connected equipment appears on the screen immediately after the power is turned on
Set the initialization period to "0."

Adjusting the Focus

Since the projector is focused at the factory, usually focus adjustment is not necessary. Adjust the lens focus only when it is very out of focus. If sharp focus cannot be obtained with the lens focus adjustment, perform the electric focus adjustment.

Procedure of the Focus Adjustment

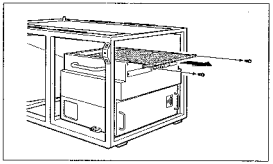
1 Open the top cover of the chassis. *(page 6-18)*
↓
2 Set the remote control unit to the serviceman adjustment mode. *(page 6-1)*
↓
3 Select the RGB input without connecting the input source (NO INPUT mode). *(page 6-18)*
↓
4 Display the H-pattern. *(page 6-18)*
↓
5 Set the CONTRAST level to 80 and BRIGHT (brightness) level to 50. *(page 6-19)*
↓
6 Adjust the green lens focus. *(page 6-19)*
↓
7 Adjust the red lens focus. *(page 6-19)*
↓
8 Adjust the blue lens focus. *(page 6-19)*
↓
9 Adjust the electric focus. *(page 6-20)*
(Only when not in focus with the lens focus adjustment)

Proceed to the registration adjustment. *(page 6-22)*

Adjusting the Focus

Adjusting the Lens Focus

1 Open the top cover of the chassis.
① Remove the two screws.
② Slide to open the top cover until the lenses are visible.



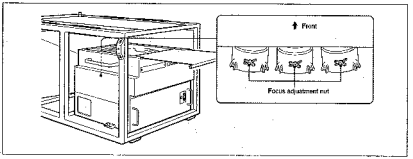
2 Make the adjustment keys on the remote control unit operable. *(See page 6-1.)*

3 Press the INPUT SELECT B key. (NO INPUT mode)
Make sure that "NO INPUT" is displayed on the screen.

4 Press the TEST key on the remote control unit repeatedly until the H pattern appears on the screen.

5 Press the PICTURE CONTROL CONTR and BRT keys to set the CONTRAST adjustment level to 80 and BRIGHT level to 50.

6 Adjust the green focus.
① Press the CUT OFF R and B keys to display the green signal only.
② Loosen the focus adjustment nut of the green lens and slide it so that the letters H at the center of the screen and the center of the right and left ends are in optimum focus.
③ Tighten the screw.



Hint for lens focus adjustment
The letter H is made up of dots. If it is in focus, the dots will be clearly seen as in the illustration. (Only for green and red)

7 Adjust the red focus.
① Press the CUT OFF G and B keys to display the red signal only.
② Adjust the red focus using the focus adjustment nut of the red lens following the same procedure as for the green focus.

8 Adjust the blue focus.
① Press the CUT OFF G and R keys to display the blue signal only.
② Adjust the blue focus using the focus adjustment nut of the blue lens following the same procedure as for the green focus.

The lens focus adjustment is complete.
Proceed to the registration adjustment *(page 6-22)*.

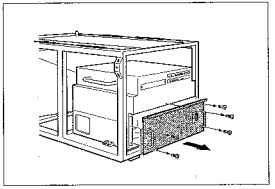
Note
When you cannot see the letter H clearly as seen in step **6** with the green and red focus adjustments, perform the electric focus adjustment *(page 6-20)*.

Adjusting the Focus

Adjusting Electric Focus

When you cannot obtain sharp focus with the lens focus adjustment, perform the green and red electric focus adjustments using the controls at the rear of the projector.
Do not adjust the blue electric focus.

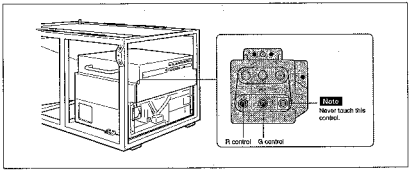
1 Remove the five screws on the lower rear cover to remove.



2 Press the TEST key repeatedly until the H pattern appears on the screen.

3 Press the PICTURE CONTROL RESET key to reset the CONTRAST level to 80 and the BRIGHT (brightness) level to 50.

4 Adjust the green electric focus.
① Press the CUT OFF R and B keys to display the green signal only.
② Adjust focus by turning the G control.



5 Adjust the red electric focus.
① Press the CUT OFF G and B keys to display the red signal only.
② Adjust focus by turning the R control.

Hint 1

Since the focus adjustment level varies with the brightness of the screen, set the CONTRAST level for normal projection.

Hint 2

When a high-resolution picture is projected while adjusting the focus, a sharper focus may be obtained. Set the CONTRAST level for normal projection.

Blue electric focus adjustment

If the blue color is precisely in focus, the brightness of the picture will be reduced, so that it is set a little out of focus at the factory.
If you set the blue color in focus upon customer's request, readjust the white balance after adjusting the electric focus.

Adjusting Registration

Display the test pattern on the screen and adjust the registration. Perform green, red and blue adjustments in this order to converge the three colors.

Procedure of the Registration Adjustment

1 Mark the center of the screen. *(page 6-24)*

↓

2 Set the remote control unit to the serviceman adjustment mode. *(page 6-1)*

↓

3 Select the input which the system actually uses. *(page 6-24)*

↓

4 Reset the standard data to the factory preset level.
(only when the adjustment data has been saved before) *(page 7-4)*

↓

5 Release blanking adjustment. *(page 6-25)*

↓

6 Adjust the green registration. *(page 6-25)*
- ① Centering adjustment
- ② Size and linearity adjustment
- ③ Wave-like distortion adjustment
- ④ Trapezoidal distortion adjustment
- ⑤ Quaternary adjustment
- ⑥ Asymmetrical pin distortion adjustment
- ⑦ Symmetrical pin distortion adjustment
- ⑧ LIN, KEY, PIN, WAVE and WING adjustments in sections

↓

7 Adjust the red registration. *(page 6-43)*
- ① Centering adjustment
- ② Size and linearity adjustment
- ③ Wave-like distortion adjustment
- ④ Trapezoidal distortion adjustment
- ⑤ Quaternary adjustment
- ⑥ Asymmetrical pin distortion adjustment
- ⑦ Symmetrical pin distortion adjustment
- ⑧ LIN, KEY, PIN, WAVE and WING adjustments in sections

↓

8 Adjust the blue registration. *(page 6-44)*
- ① Centering adjustment
- ② Size and linearity adjustment
- ③ Wave-like distortion adjustment
- ④ Trapezoidal distortion adjustment
- ⑤ Quaternary adjustment
- ⑥ Asymmetrical pin distortion adjustment
- ⑦ Symmetrical pin distortion adjustment
- ⑧ LIN, KEY, PIN, WAVE and WING adjustments in sections

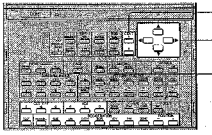
↓

9 Activate the protection on the remote control unit. *(page 7-6)*

↓

Complete.

Keys for Registration Adjustment



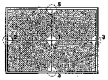
Identifying the REGISTRATION keys

Indications on the remote control unit	Adjustment items
CENT	centering
SIZE	size
LIN	linearity
SKEW	skew
BOW	bow
KEY	keystone, wave
PIN	pincushion, wing

Adjusting Registration

Preparing for the Registration Adjustment

1 Mark the center of the screen.
Measure the length and width of the screen with a measure tape to decide the center.
Marking five points as illustrated with white tape will help you adjust registration.



2 Set the remote control unit to the serviceman adjustment mode. *(See page 6-1.)*

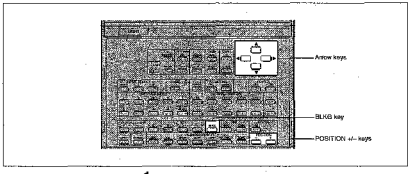
3 Select the input which the system actually uses.
Make sure the picture is displayed on the screen.

Note
Inputting the 15 kHz sequential scanning signal may affect the test pattern.

4 Reset the standard data.
(Only if the registration adjustment has been performed and the data has been saved before)
See page 7-4 for how to reset the data.

Releasing Blanking Adjustment

The registration adjustment is difficult if the entire test pattern is not visible. Follow the steps below to make the whole test pattern visible.



1 Press the BLKG key to enter the blanking adjustment mode.

2 Press the TEST key to display the hatch pattern.

3 Press the POSITION +/– keys to select the part to be adjusted.
When the + key is pressed, the position will change as follows:
RIGHT → LEFT → TOP → BOTTOM
When the – key is pressed, the position will change in the reverse order.

Adjusting Registration

4 Press the ▲, ▼, ◀ and ▶ keys until the adjustment levels of the RIGHT, LEFT, TOP and BOTTOM positions are set to "255." The blanking is released.
▶: to adjust RIGHT, ◀: to adjust LEFT
▲: to adjust TOP, ▼: to adjust BOTTOM

Note
There may be a rainbow-like vertical band on the right side or a diagonal line on the upper part of the screen.
As they can be adjusted with the blanking adjustment later *(see page 6-46)*, leave them alone for now.

Registration Adjustment Items

Adjustment item	Display	Keys to be used for each adjustment	Adjustment type H	V
CENT	CENT R/B	CENT	*	*
SIZE	SIZE	SIZE	*	*
	MID SIZE	SIZE	*	*
	8-SIZE	SIZE	*	*
LIN	LIN	LIN	*	*
	MID LIN	LIN	*	*
	6-LIN	LIN	*	*
	R. LIN	LIN, POSITION +/–	*	–
	L. LIN	LIN, POSITION +/–	*	–
	R. MID LIN	LIN, POSITION +/–	*	–
	L. MID LIN	LIN, POSITION +/–	*	–
	T. LIN	LIN, POSITION +/–	–	*
	B. LIN	LIN, POSITION +/–	–	*
	T. MID LIN	LIN, POSITION +/–	–	*
	B. MID LIN	LIN, POSITION +/–	–	*
WAVE	WAVE	KEY	–	*
	R. WAVE	KEY, POSITION +/–	*	–
	L. WAVE	KEY, POSITION +/–	*	–
	R. MID WAVE	KEY, POSITION +/–	*	–
	L. MID WAVE	KEY, POSITION +/–	*	–
	T. WAVE	KEY, POSITION +/–	–	*
	B. WAVE	KEY, POSITION +/–	–	*
	T. MID WAVE	KEY, POSITION +/–	–	*
	B. MID WAVE	KEY, POSITION +/–	–	*

H: Horizontal adjustment
V: Vertical adjustment
*: functions
–: not function

Adjustment item	Display	Keys to be used for each adjustment	Adjustment type H	V
SKEW	SKEW	SKEW	*	*
	SUB SKEW	SKEW	*	*
	3-SKEW	SKEW	*	*
BOW	BOW	BOW	*	*
	SUB BOW	BOW	*	*
	MID BOW	BOW	*	–
	4-BOW	BOW	*	*
PIN	PIN	PIN	*	*
	MID PIN	PIN	*	*
	R. PIN	PIN, POSITION +/–	*	–
	L. PIN	PIN, POSITION +/–	*	–
	R. MID PIN	PIN, POSITION +/–	*	–
	L. MID PIN	PIN, POSITION +/–	*	–
	T. PIN	PIN, POSITION +/–	–	*
	B. PIN	PIN, POSITION +/–	–	*
	T. MID PIN	PIN, POSITION +/–	–	*
	B. MID PIN	PIN, POSITION +/–	–	*
KEY	KEY	KEY	*	*
	MID KEY	KEY	–	*
	R. KEY	KEY, POSITION +/–	*	–
	L. KEY	KEY, POSITION +/–	*	–
	R. MID KEY	KEY, POSITION +/–	*	–
	L. MID KEY	KEY, POSITION +/–	*	–
	T. KEY	KEY, POSITION +/–	–	*
	B. KEY	KEY, POSITION +/–	–	*
	T. MID KEY	KEY, POSITION +/–	–	*
	B. MID KEY	KEY, POSITION +/–	–	*
WING	WING	PIN	*	*
	SUB WING	PIN	*	–
	R. WING	PIN, POSITION +/–	*	–
	L. WING	PIN, POSITION +/–	*	–
	R. MID WING	PIN, POSITION +/–	*	–
	L. MID WING	PIN, POSITION +/–	*	–
	T. WING	PIN, POSITION +/–	–	*
	B. WING	PIN, POSITION +/–	–	*
	T. MID WING	PIN, POSITION +/–	–	*
	B. MID WING	PIN, POSITION +/–	–	*

H: Horizontal adjustment
V: Vertical adjustment
*: functions
–: not function

Adjusting Registration

To select the supplementary adjustments of each item (e.g. SUB SKEW, MID PIN), press the corresponding adjustment key repeatedly until the desired supplementary adjustment item appears on the screen.

Example: To select the supplementary adjustment item of the SIZE adjustment, press the SIZE key repeatedly. The display changes as follows every time you press the SIZE key:

SIZE → MID SIZE → S-SIZE

To select the adjustment in sections for each item (e.g. R. LIN, B. MID KEY), press the corresponding adjustment key repeatedly until the desired supplementary adjustment item appears, then select the desired section with the POSITION + or – key.

Example: To select the adjustment in sections for the MID LIN adjustment, press the LIN key twice to choose MID LIN. Then press the POSITION + or – key repeatedly. The display changes as follows every time you press the POSITION + or – key.

MID LIN ⟷ R. MID LIN ⟷ L. MID LIN ⟷ T. MID LIN ⟷ B. MID LIN
(+ key →, – key ←)

After displaying the desired adjustment item, adjust distortion with the arrow keys.

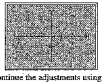
Adjusting the Green Registration

Be sure to adjust starting with the green test pattern.

Green centering adjustment

Adjust so that the center of the test pattern is aligned with the center of the screen.

1. Press CENT R and B keys simultaneously, then press the TEST key. The cross hair pattern is displayed.
2. Press the CUT OFF R and B keys to display green only.
3. Adjust with the ▲, ▼, ◀ and ▶ keys so that the center of the cross hair pattern is aligned with the center of the screen (joint of the screen retainers). The dotted line shows the adjustable part by pressing the arrow keys.



Continue the adjustments using the items on pages 6-29 and 6-30. The dotted lines in the following illustrations show the adjustable parts by pressing the arrow keys.

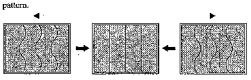
A Vertical line adjustment

BOW adjustment
Adjust the bow-like distortion of the vertical center line of the cross hair pattern.

SKEW adjustment
Adjust the tilt of the vertical center line of the cross hair pattern.

3-SKEW adjustment
Adjust the wave-like distortion of the vertical center line of the cross hair pattern.

4-BOW adjustment
Adjust the quaternary distortion of the vertical center line of the cross hair pattern.



B Horizontal line adjustment

BOW adjustment

Adjust the bow-like distortion of the horizontal center line of the cross hair pattern.

SKEW adjustment

Adjust the tilt of the horizontal center line of the cross hair pattern.

3-SKEW adjustment

Adjust the wave-like distortion of the horizontal center line of the cross hair pattern.

4-BOW adjustment

Adjust the quaternary distortion of the horizontal center line of the cross hair pattern.

Green size and linearity adjustments

Horizontal linearity adjustment

1 Adjust the balance of the sizes at both sides of the center of the screen with the MID LIN (linearity) adjustment.

2 Adjust the balance of the sizes on the right and left ends of the screen with the LIN (linearity) adjustment.

3 Adjust the balance of the sizes on the right and left sides of the center section of the screen with the 6-LIN adjustment.

4 Repeat the MID LIN, LIN and 6-LIN adjustments alternately until the sizes of the horizontal lines at the center of the screen are symmetrical right and left.

Horizontal size adjustment

1 Adjust with the MID SIZE adjustment so that the sizes of both sides of the center section and of both ends of the screen are equal.

2 Adjust with the SIZE adjustment so that the horizontal size fits the projector cabinet.

3 Adjust with the 5-SIZE adjustment so that the sizes of the right and left sides of the center section of the screen are equal.

4 Repeat the MID SIZE, SIZE and 5-SIZE adjustments alternately until the vertical line intervals for the horizontal line of the center section are equal.

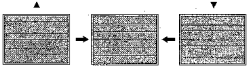
Note

If you change the linearity setting after the MID SIZE, SIZE and 5-SIZE adjustments are complete, repeat linearity and size adjustments.

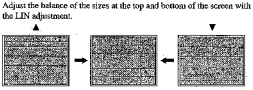
Vertical linearity adjustment

1 Adjust the balance of the sizes at both sides of the center of the screen with the MID LIN (linearity) adjustment.

2 Ajust the balance of the sizes on the upper and lower parts of the center section of the screen with the 6-LIN adjustment.



3 Adjust the balance of the sizes at the top and bottom of the screen with the LIN adjustment.

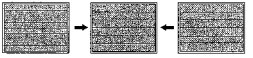


Vertical size adjustment

1 Adjust with the MID SIZE adjustment so that the sizes of both sides of the center section and of both ends of the screen are equal.

2 Adjust with the SIZE adjustment so that the vertical size fits the projector cabinet.

3 Adjust with the 5-SIZE adjustment so that the sizes of the upper and lower parts of the center section of the screen are equal.



4 Repeat the MID SIZE, SIZE and 5-SIZE adjustments alternately until the horizontal line intervals of the center section are equal.

Note

If the linearity setting is changed after the MID SIZE, SIZE and 5-SIZE adjustments are complete, repeat linearity and size adjustments.

Adjusting Registration

WAVE adjustment

Adjust the wave-like distortion of the horizontal lines at the top and bottom sections of the screen.

Note

After WAVE adjustment is complete, there may be keystone distortion. Repeat the WAVE and KEY adjustments alternately.

Green trapezoidal distortion adjustment

Horizontal trapezoidal distortion adjustment

1 Adjust with the SUB SKEW adjustment so that the tilt of the vertical lines on the right and left ends of the screen is symmetrical.

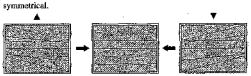
2 Adjust with the KEY adjustment so that there is no tilt in the vertical lines at both ends of the screen.

Note

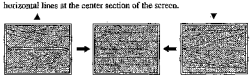
If there is a tilt on either the right or left end after the KEY adjustment, repeat the SUB SKEW and KEY adjustments alternately.

Vertical trapezoidal distortion adjustment

1 Adjust with the SUB SKEW adjustment so that the tilt of the horizontal lines at the top and bottom sections of the screen is symmetrical.



2 Adjust with the MID KEY adjustment so that there is no tilt in the horizontal lines at the center section of the screen.



3 Adjust with the KEY adjustment so that there is no tilt in the horizontal lines at the top and bottom sections of the screen.

4 Repeat the MID KEY and KEY adjustments until there is no tilt in the horizontal lines on the entire screen.

Note

If the tilt of the horizontal lines becomes asymmetrical after the MID KEY and KEY adjustments are complete, adjust with the SUB SKEW adjustment again.

Green quaternary distortion adjustment

Horizontal quaternary distortion adjustment

1 Adjust the quaternary distortion with the WING adjustment.

2 Adjust with the SUB WING adjustment so that the quaternary distortion of the right and left ends is symmetrical.

3 Repeat the WING and SUB WING adjustments alternately.

Vertical quaternary distortion adjustment

1 Adjust quaternary distortion of the horizontal lines at the top and bottom sections of the screen with the WING adjustment.

Notes

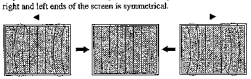
- Since vertical distortion cannot be adjusted with the SUB WING adjustment, there may be a slight imbalance. Adjust to minimize the distortion with the step above.
- The horizontal lines at the top and bottom sections may not be straight. If the distortion is not big enough that it can be corrected with the PIN adjustment, proceed with the following steps.

Green asymmetrical pin distortion adjustment

Horizontal asymmetrical pin distortion adjustment

1 Adjust with the MID BOW adjustment so that the bow-like distortion at both sides of the center section of the screen is symmetrical.

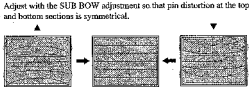
2 Adjust with the SUB BOW adjustment so that pin distortion on the right and left ends of the screen is symmetrical.



3 Repeat the MID BOW and SUB BOW adjustments alternately until the vertical lines on the entire screen are symmetrical left and right.

Vertical asymmetrical pin distortion adjustment

1 Adjust with the SUB BOW adjustment so that pin distortion at the top and bottom sections is symmetrical.



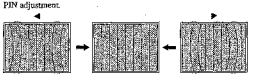
Adjusting Registration

Green symmetrical pin distortion adjustment

Horizontal symmetrical distortion adjustment

1 Adjust pin distortion at both sides of the center section of the screen with the MID PIN adjustment.

2 Adjust pin distortion on the right and left ends of the screen with the PIN adjustment.



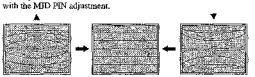
3 Repeat the MID PIN and PIN adjustments alternately until the vertical lines on the entire screen are straight.

Note

If there is asymmetrical pin distortion after the MID PIN and PIN adjustments are complete, repeat the MID BOW and SUB BOW adjustments alternately.

Vertical symmetrical pin distortion

1 Adjust pin distortion at both sides of the center section of the screen with the MID PIN adjustment.



2 Adjust pin distortion at the top and bottom sections of the screen with the PIN adjustment.

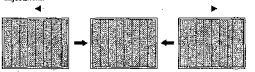
3 Repeat the MID PIN and PIN adjustments alternately until the horizontal lines on the entire screen are straight.

4 After the adjustments in steps 1 to 3 are complete, repeat the SUB BOW, MID PIN and PIN adjustments in these order.

Green adjustments in sections

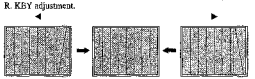
Horizontal LIN, KEY, PIN, WAVE and WING adjustments in the right section

1 Adjust the linearity on the right end of the screen with the R. LIN adjustment.

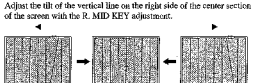


2 Adjust the linearity on the right side of the center section of the screen with the R. MID LIN adjustment.

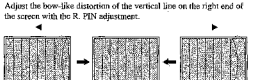
3 Adjust the tilt of the vertical line on the right end of the screen with the R. KEY adjustment.



4 Adjust the tilt of the vertical line on the right side of the center section of the screen with the R. MID KEY adjustment.



5 Adjust the bow-like distortion of the vertical line on the right end of the screen with the R. PIN adjustment.

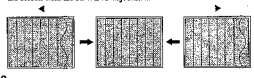


6 Adjust the bow-like distortion of the vertical line on the right side of the center section of the screen with the R. MID PIN adjustment.

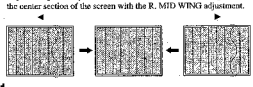
7 Adjust the wave-like distortion of the vertical line on the right end of the screen with the R. WAVE adjustment.

8 Adjust the wave-like distortion of the vertical line on the right side of the center section of the screen with the R. MID WAVE adjustment.

9 Adjust the quaternary distortion of the vertical line on the right end of the screen with the R. WING adjustment.



10 Adjust the quaternary distortion of the vertical line on the right side of the center section of the screen with the R. MID WING adjustment.



11 Adjust the horizontal adjustments in the left section, and the vertical LIN, KEY, PIN, WAVE and WING adjustments in the upper and lower sections. Adjustment procedures are the same as those in step **1** to **10** above.

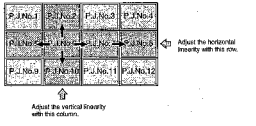
Green adjustment on the projection wall screen

After the green registration of the individual projector is completed, correct the imbalance of the green signal on the projection wall screen.
Check if the vertical and horizontal lines of the hatch patterns are joined straight on the projection wall screen. For example, if lines deviate due to the linearity imbalance among the projectors, readjust the linearity of each projector as follows:

The lines at the encircled portions in the illustration deviate.

1 Select a projector in the center zone as the reference unit for linearity adjustment.

When projector P.J. No.6 is selected as a reference unit



2 Press the LIN key.
Press the TEST key to select the hatch pattern.

3 Press the ADJ G key.

Adjusting Registration

4 Adjust with the ◄ and ► keys until parts (a) on the right and left are of equal length.

◄: The right and left vertical lines are shifted to the left while the vertical center line remains unmoved.

►: The right and left vertical lines are shifted to the right while the vertical center line remains unmoved.

5 Adjust with the ▲ and ▼ keys until parts (b) at the top and bottom are of equal length.

▲: The upper and lower horizontal lines are shifted upward while the horizontal center line remains unmoved.

▼: The upper and lower horizontal lines are shifted downward while the horizontal center line remains unmoved.

6 If the center of the hatch pattern is off-centered on the projection wall screen, perform the centering adjustment again and then repeat steps **2** to **5**. *(See page 6-28 for centering adjustment.)*

7 After the adjustment is completed, press the MEMORY key to save the adjustment data.

8 Adjust the next projector using the reference unit as a standard.

The green registration adjustment is all completed.
Proceed to the adjustment for the red signal.

Adjusting the Red Registration

Display the green, red and blue signals on the screen and adjust the red signal so that it converges with the green signal. If it is difficult to see the display, press the CUT OFF B key to turn off the blue signal.

Red centering adjustment

Adjust so that the center of the red test pattern is aligned with that of the green pattern.

1 Press the CENT R key.

2 Adjust with the ▲, ▼, ◄ and ► keys so that the center of the red cross hair pattern is aligned with that of the green pattern.

Red SIZE, LIN, WAVE, SKEW, BOW, PIN, KEY and WING adjustments

Adjust so that the red signal converges with the green signal in each adjustment. The procedures are the same as for the green registration adjustments *(pages 6-29 to 6-40)*.
Make sure that "R" is displayed on the screen when adjusting the red signal.

When the red adjustment is complete, press the MEMORY key to save the adjustment data.

Adjusting Registration

Adjusting the Blue Registration

Display the green, red and blue signals on the screen and adjust the blue signal so that it converges with the green signal. If it is difficult to see the display, press the CUT OFF R key to turn off the red signal.

Blue centering adjustment

Adjust so that the center of the blue test pattern is aligned with that of the green pattern.

1 Press the CENT B key.

2 Adjust with the ▲, ▼, ◄ and ► keys so that the center of the blue cross hair pattern is aligned with that of the green pattern.

Blue SIZE, LIN, WAVE, SKEW, BOW, PIN, KEY and WING adjustments

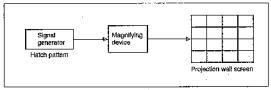
Adjust so that the blue signal converges with the green signal in each adjustment. The procedures are the same as for the green registration adjustments *(pages 6-29 to 6-40)*.
Make sure that "B" is displayed on the screen when adjusting the blue signal.

When the blue adjustment is complete, press the MEMORY key to save the adjustment data.

Adjusting the Projection Wall Screen (Centering and Size)

Adjust the size and shift (position) of the picture on each projector screen so that the picture is displayed correctly as one projection wall picture.

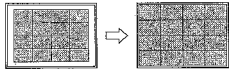
1 Connect a signal generator instead of the signal input source of the system, and display a hatch pattern.



2 Display the enlarged test pattern for adjustment.

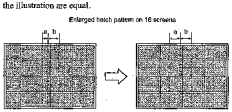
Enlarged hatch pattern on 16 screens

3 Perform the centering and size adjustments so that the picture on every projector screen is displayed with the same center position and the same size.
Release the blanking, and adjust the size and shift (position) of the picture with the RGB SIZE and RGB SHIFT keys so that the edge of the picture fits the outline of the projector cabinet.



☐ indicates the screen on single projector screen.

4 Expand the vertical and horizontal size of the picture gradually on all the projectors simultaneously until the end of the picture on one projector connects to the end of the picture on the adjacent projector correctly.
In case of the hatch pattern, adjust the size so that length (a) and (b) in the illustration are equal.



Before adjustment: The length (a) and (b) are different.

After adjustment: The length (a) and (b) are the same.

When you use the magnifying device with which the connecting point of the picture is previously known
You can adjust each projector directly to the final picture size with the RGB SIZE and RGB SHIFT keys in step **3**. In this case, skip step **4**.

5 Finely adjust the connecting point of the picture on each projector.
If the hatch pattern does not connect correctly on the projection wall screen due to slight difference of the centering and the size of the picture on each projector, finely adjust the difference using the RGB SIZE and RGB SHIFT keys. If the hatch pattern does not connect due to linearity imbalance or other registration imbalance, readjust the registration.

6 Adjust the blanking.
Adjust the blanking to avoid the excess part of the picture reflecting. Set the blanking to about 5 mm outside the outline of the projector cabinet.

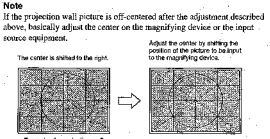
7 Press the MEMORY key to save the adjustment data.

8 Repeat the projection wall screen adjustment for other input sources and other enlarged patterns.
The projection wall screen adjustments (RGB SIZE, RGB SHIFT) and the blanking adjustment should be performed each time the input signal frequency or the input terminal in use (Input A, B or VIDEO) is changed. Enlarge the test pattern appropriately and repeat steps **3** to **8**.

If color difference is noticeable, perform the registration adjustments again.

The projection wall screen adjustment is completed.

Note
If the projection wall picture is off-centered after the adjustment described above, basically adjust the center on the magnifying device or the input source equipment.


The center is shifted to the right.
Adjust the center by shifting the position of the picture to be input to the magnifying device.

Example of a projection wall screen using 16 projectors

If there is an overlapped portion among the pictures on each projector, you can shift the picture using the RGB SHIFT key. Shift adjustment is not possible if there is no overlapped portion among the pictures.

Memory Architecture

The adjustment data are saved under various conditions as follows:

	Contents	Data source	How to save the data
Channel memory	Picture control (CONTRAST, BRIGHT, COLOR, HUE, SHARP)	Selected input	• Turn off the projector with the remote control unit. • Switch the input with the remote control unit. • Press the MEMORY key.
Status memory	RGB SIZE, SHIFT, Blanking, Color temperature (9300/ 6500/9300/PRESET)	Input signal	• Turn off the projector with the remote control unit. • Switch the input with the remote control unit. • Press the MEMORY key. • Change the setting in the PAGE 2 menu
Registration memory	Registration	Registration memory number for each input signal	• Press the MEMORY key.
Color temperature memory	Bias, Gain	Color temperature setting for each input signal	• Press the MEMORY key.

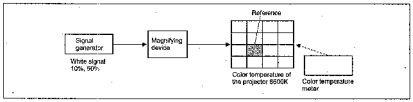
Adjusting the White Balance for the Projection Wall System Including the Magnifying Device

To obtain a natural color on a large projection wall screen, it is necessary to adjust the color on each projector so that every projector's screen looks the same.

Preparation

- If the input signal level differs on each projector due to uneven output from the magnifier or distributor, adjust it before the white balance adjustment.
- Normally set the color temperature of the projector to 6500K among 9300K, 6500K, 3200K and PRESET.
- Connect the signal generator instead of the signal input source of the system. If there are multiple signal input sources, select the source to be used frequently.
- Reset all the projectors to get standard brightness and contrast levels using the RESET key on the remote control unit.

Assign a projector for the color temperature reference.
Display a white signal with 10% bias (black level) and 50% gain (white level) on the reference projector's screen and adjust the color temperature to 6500K using the color temperature meter such as the CS-100 colorimeter.



1 Adjust the black level.
① Output a 10% signal from the signal generator.
② Press the W/B BIAS key.
③ Cut off the red and blue signals and display only the green signal on every projector.
Adjust the projectors one by one so that the luminance of each projector looks the same as that of the reference projector.

Order of the adjustment (■ indicates the reference projector.)

④ Add the red signal and adjust it so that the yellow looks the same on all the projectors.
⑤ Add the blue signal and adjust it so that the gray looks the same on all the projectors.

2 Adjust the white level.
① Output an 50% signal from the signal generator.
② Press the W/B GAIN key.
③ Perform the same adjustment as that for bias adjustment.

3 Repeat the bias and gain adjustments until the color on all the projectors looks the same.
Perform the bias adjustment and the gain adjustment alternately since they interact with each other.

4 Display a picture from the signal input source and check the color. Finally, check the color of the picture that you actually intend to display. If color difference is noticeable in a bright portion (about 80IRE level) or a dark portion (about 10IRE level), readjust the bias and gain as described above.

5 Press the MEMORY key to save the adjustment data.

To make a projection wall screen's brightness uniform (Linked ABL function)

If you connect the ABL LINK jacks of each projector, you can activate the ABL (Auto Brightness Limiter) on all projectors if it functions on any one projector.

1 Connect the ABL LINK jacks of each projector with an optional connecting cables with miniplugs.
For details on connection, see page 5-11.

2 Display PAGE 3 and set ABL LINK to ON for each projector.
① Press the PAGE key repeatedly until PAGE 3 appears.

② Press the ▲ or ▼ key to make ABL LINK green.

③ Press the ◄ or ► key to select ON.

Adjusting the Picture Quality

Perform this adjustment only when the contrast or brightness should be adjusted in the following cases.

When the projection wall screen is too bright for the surroundings:
Reduce the contrast.
When black is too strong due to the input signal: Reduce the brightness.

The adjustment of the projection wall screen is at completed.

Adjusting the White Balance for an Individual Projector

The color temperatures are preset at the factory to 9300K, 6500K and 3200K. However, you can change these levels or set a color temperature other than the factory-preset levels, and save it in the memory.

Adjust the white balance of the projector using a reference color monitor as follows:

Setting the White Balance

Preparation

1. Display the same input signal on the projector and the color monitor.
2. Press the PAGE key repeatedly until PAGE 2 appears.

3. Press the ▲ or ▼ key to make COLOR TEMP green.
4. Press the ◄ or ► key to select 9300, 6500 or 3200, the nearest color temperature to that of the color monitor or the desired one. Normally set to 6500.
5. Press the MEMORY key to save the adjustment data.

Adjusting the White Balance for an Individual Projector

Adjusting the black level

1 Press the W/B BIAS key.

2 Press the ADJ R, G or B key to select the color to be adjusted.
When selecting the color, pay attention to the black part of the picture displayed on the screen and note which color stands out compared to that of the monitor.

3 Press the ◄ and ► keys so that the brightness and color of the black part in the picture look the same as those of the monitor.
If the brightness does not look the same as that of the monitor, adjust the other colors by pressing the ADJ R, G or B key.

4 Press the MEMORY key to save the adjustment data.

Adjusting the white level

1 Press the W/B GAIN key.

2 Press the ADJ R, G or B key to select the color to be adjusted.
When selecting the color, pay attention to the white part of the picture displayed on the screen and note which color stands out compared to that of the monitor.

3 Press the ◄ and ► keys so that the brightness and color of the white part in the picture look the same as those of the monitor.
If the brightness does not look the same as that of the monitor, adjust the other colors by pressing the ADJ R, G or B key.

4 Press the MEMORY key to save the adjustment data.

Repeat steps for the black and white levels above until the black and white colors become uniform with those of the monitor.

External Communication

You can control the projector from a computer by connecting it via the RS-422 terminal.

Communication format

Baud rate	19200 bps
Data bit	8 bits
Parity	odd
Stop bit	1 bit

Commands

The main commands are as follows:

- Power on/off
- Picture muting
- Picture control
- Input select, etc.

For details, refer to the RS-422 interface manual.
The external communication is also possible using the SIRCS signal via the CONTROL S jacks.

Resetting the Data

There are three possibilities to reset the data, the serviceman data reset, factory data reset and initial data reset.

Serviceman data reset
Resets to the previously saved data (the data before the adjustment).

Factory data reset
Resets to the factory preset level.

Initial data reset
Resets to the initial data (no adjustment data).

How to Reset the Data

1 Select the adjustment mode to be reset.

2 Press the ◄ and ► keys simultaneously, or press the RESET key.
The following display appears.

3 Press the ▲ or ▼ key to select "Serviceman data," "Factory data" or "Initial data."
Example: To reset the red size adjustment data to the factory preset level

4 Press the ► key.
The data will be reset to the factory preset level.

To cancel the data reset
Press the ◄ key in step 4.

For reference — Mode and data reset correspondence

Mode	Data to be reset
RGB Size	H-size and V-size
RGB Shift	H-shift and V-shift
G-centering	Centering data for all colors
R-centering	Not applicable
B-centering	Not applicable
Size, Linearity, Wave, Skew Bow, Keystone, Pincushion Wing	All the registration data for the selected color
Blanking	RIGHT/LEFT/TOP/BOTTOM side blanking data
Gain, Bias	All the Bias and Gain data for all colors at the current color temperature

Activating the Protection on the Remote Control Unit

When you turn off the projector with the remote control unit, the adjustment keys become inoperable in order to prevent the users from accidentally changing the registration adjustments.
It is also possible to make the keys inoperable while the power is on in the following way.

1 Hold down the NORMAL key for at least 3 seconds.

2 Press the ▲ (YES) key.
The adjustment keys are now inoperable.

Adjusting the Picture

You can adjust the picture for each projector for your preference. The adjusted data can be saved in the memory.

1 Adjust with the PICTURE CONTROL +/– keys.

CONTRAST	picture contrast
BRIGHT	brightness
COLOR	color intensity
HUE	hue
SHARP	sharpness

The adjustment values are indicated by 0, 1, 2 .. 99, 100.

2 When the adjustment is completed, press the MEMORY key.

To restore the factory preset levels

Press the RESET key.
The factory preset levels are displayed on the screen.

Note

- The COLOR, SHARP and HUE keys do not function on the pictures input from the RGB IN connectors.
- The HUE and COLOR keys do not function if the input signal is black and white.
- The HUE key does not function with the PAL or SECAM color source.

Using the Power On Delay Function

The projector can be turned on sequentially one by one in the order of its ID (index) number.

1 Press the PAGE key repeatedly until PAGE 3 appears.

2 Press the ▲ or ▼ key to select POWER ON DELAY.

3 Press the ◄ or ► key to select ON.
The projector enters standby mode when you press the MAIN POWER switch and turns on after the delay time when you press the POWER ON key on the remote control unit.

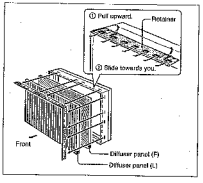
To deactivate the power on delay function
Select OFF in step **3** above.

Delay time
The projector will be turned on a certain time after you pressed the POWER ON key on the remote control unit.
The delay time for each projector is as follows:

Delay time (seconds) = 1 sec. × lower two digits of the index number

ex. ID 012: 1 × 12 = 12 sec.
ID 120: 1 × 20 = 20 sec.

Replacing the Screen



When the VPS-411RF screen is used, replace the screen as follows.

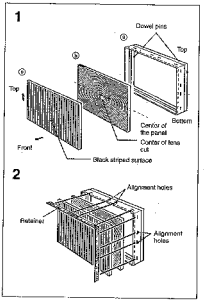
1 Remove the screen from the unit. *(See page 5-3.)*

2 Unlock the eight retainers.

Note
Be careful not to apply excessive force to the retainer, otherwise it may deform.

3 Remove the diffuser panel to be changed.

To attach the diffuser panels



1 Assemble the screen frame, the diffuser panel (F), and the diffuser panel (L) in the order as illustrated.
When assembling, pay attention to the following:
Ⓐ **Screen frame:** The dowel pins should be toward the top.
Ⓑ **Diffuser panel (F):** The side with circular tracks faces the diffuser panel (L). The center of the lens cut should be toward the bottom.
Ⓒ **Diffuser panel (L):** The black striped surface should face the front.

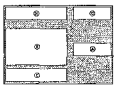
Note
When assembling, first place the screen frame on the floor, then lay the diffuser panels (F) and (L) in order.

2 Attach the eight retainers to secure the diffuser panels.
First insert the retainer hooks into the alignment holes, then into the other holes.

CAUTION
When carrying the diffuser panel (L), make sure to hold it by the longer sides, otherwise it might break.

List of the Messages

Use the list below to check the meaning of the messages displayed on the screen.
The list is divided into sections depending on the location which the message appears. Check the location first, then refer to the alphabet for the section to find the message.



Ⓒ, Ⓓ, Ⓕ, Ⓖ and Ⓘ will appear all over the screen.

A Caution, Message

• Not applicable	• The key is not applicable in the current mode.
• PIC MUTING	• Picture muting mode is on.
• NO INPUT	• No input signal

B PIC CONTROL data

• CONTRAST: xx	• Contrast
• BRIGHT: xx	• Brightness
• COLOR: xx	• color
• HUE: xx	• Hue
• SHARP: xx	• Sharpness
• Reset complete	• Resets the PIC CONTROL data.

C Input information, Index number, Selected adjustment color

• VIDEO	• Input from VIDEO on optional video input board
• S-VIDEO	• Input from Y/C on optional video input board
• RGB	• Input from RGB
• INPUT-A	• Input from 15K RGB IN on optional video input board
• INPUT-B	• Input from 31K RGB IN
• RGB31(15)/60(50)	• 31K (15K) RGB signal with 60 (50) Hz
• MTSC3.58	• NTSC3.58 input signal
• NTNS4.43	• NTSC4.43 input signal
• PAL	• PAL input signal
• SECAM	• SECAM input signal
• Y/R-Y/ 15/60(50)	• Analog color difference signal
• MONO	• Black and white input signal
• 000 – 999	• Index number
• R –	• Red signal is being adjusted.
• – G –	• Green signal is being adjusted.
• – – B	• Blue signal is being adjusted.

D PAGE
Subtitle

• PICTURE CONTROL	• Picture control
• INPUT SETTING	• Input setting
• SET SETTING	• Set setting
• SET INFO	• Setting information
• SERVICE SETTING	• Servicesman setting

PAGE 1

• CONTRAST: xx	• Contrast level
• BRIGHT: xx	• Brightness level
• COLOR: xx	• Color level
• HUE: xx	• Hue level
• SHARP: xx	• Sharpness level

PAGE 2

• REGI MEMORY: x	• Registration memory number
• COLOR TEMP: 9300/9500/9200/PRESET	• Color temperature is set to 9300K/9500K/9200K/data adjustable by the service personnel
• V SHIFT: Wide/Narrow	• The adjustable range of the vertical shift is wide/narrow.

PAGE 3

• LANGUAGE: English/Francais/Deutche/ Italiano/Espanol	• The on-screen display can be shown in English, French, German, Italian or Spanish.
• ABL LINK: ON/OFF	• Links ABL on/off
• POWER ON DELAY: ON/OFF	• Power on delay on/off

PAGE 4

• CRT TIMER RED: xxxh GREEN: xxxh BLUE: xxxh	• CRT use time Red CRT use time: xxx hours Green CRT use time: xxx hours Blue CRT use time: xxx hours

PAGE 5

• ALL WHITE MODE: xx	
• SUB BRIGHT	• The duration of all white mode during a warm-up period is set to xx minutes.
•• UNIFORMITY: A/B/C	• Brightness uniformity adjustment level for a projection wall screen • Brightness uniformity adjustment level for the corners of a screen. The brightness at the corners is higher with settings A, B and C in ascending order.

E Operation

• YES: ▲	
• NO: ▼	• Press ▲ key for "YES."
• SEL: ▶ ◀	• Press ▼ key for "NO."
• SEL: ▲ ▼ ▶ ◀	• Press ▶ or ◀ key to select.
• ADJ: ▲ ▼ ▶ ◀	• Press ▲, ▼, ▶ or ◀ key to select.
• ADJ: ▶ ◀	• Press ▲, ▼, ▶ or ◀ key to adjust.
• ADJ: ▲ ▼	• Press ▶ or ◀ key to adjust.
• NEXT: + –	• Press ▲ or ▼ key to adjust.
	• Press + key to move the cursor to the next position.
• NEXT: PAGE	• Press – key to move the cursor to the previous position.
• EXIT: PAGE	• Press PAGE key to go to the next page.
	• Press PAGE key to exit the PAGE mode.

F Memory data

• Saving is complete	
	• Saving the memory data is completed.

* This message is not RVP-411D/411DM

List of the Messages

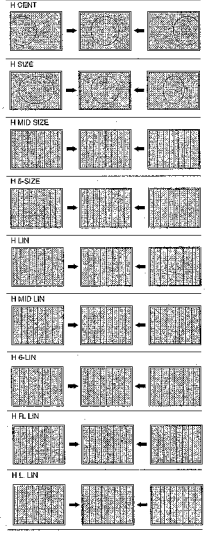
R Data reset	
• Reset complete	• Resetting is completed.
• RGB SIZE DATA RESET MODE	• RGB input size data resetting mode
• RGB SHIFT DATA RESET MODE	• RGB input shift data resetting mode
• BLANKING DATA RESET MODE	• Blanking data resetting mode
• CENTERING ALL COLOR DATA RESET MODE	• Centering data (all color) resetting mode
• WB GAIN&BIAS ALL COLOR DATA RESET MODE	• Gain/bias (all color) data resetting mode
• REGISTRATION (RED/GREEN/BLUE) DATA RESET MODE	• Registration (red, green or blue) data resetting mode

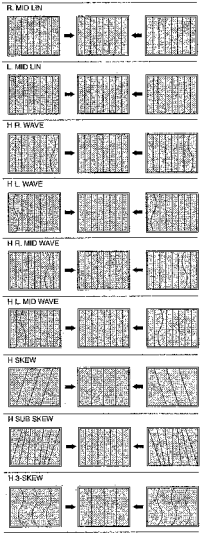
H Adjustment	
• RGB SIZE	• RGB input size adjustment mode
• RGB SHIFT	• RGB input shift adjustment mode
• R CENT	• Red centering adjustment mode
• G CENT	• Green centering adjustment mode
• B CENT	• Blue centering adjustment mode
• SIZE	• Size adjustment mode
• MID SIZE	• Mid size adjustment mode
• 5-SIZE	• 5th size adjustment mode
• LIN (LINEARITY)	• Linearity adjustment mode
• MID LIN	• Mid linearity adjustment mode
• 5-LIN	• 5th linearity adjustment mode
• R. LIN	• Linearity adjustment mode in right section
• L. LIN	• Linearity adjustment mode in left section
• T. LIN	• Linearity adjustment mode in upper section
• B. LIN	• Linearity adjustment mode in lower section
• R. MID LIN	• Mid linearity adjustment in right section
• L. MID LIN	• Mid linearity adjustment in left section
• T. MID LIN	• Mid linearity adjustment in upper section
• B. MID LIN	• Mid linearity adjustment in lower section
• WAVE	• Wave adjustment mode
• R. WAVE	• Wave adjustment mode in right section
• L. WAVE	• Wave adjustment mode in left section
• T. WAVE	• Wave adjustment mode in upper section
• B. WAVE	• Wave adjustment mode in lower section
• R. MID WAVE	• Mid wave adjustment mode in right section
• L. MID WAVE	• Mid wave adjustment mode in left section
• T. MID WAVE	• Mid wave adjustment mode in upper section
• B. MID WAVE	• Mid wave adjustment mode in lower section
• SKEW	• Skew adjustment mode
• SUB SKEW	• Sub skew adjustment mode
• 3-SKEW	• 3rd skew adjustment mode
• BOW	• Bow adjustment mode
• SUB BOW	• Sub bow adjustment mode
• MID BOW	• Mid bow adjustment mode
• 4-BOW	• 4th bow adjustment mode

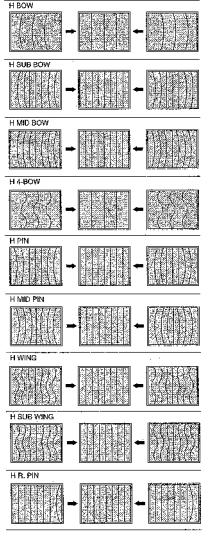
H Adjustment	
• PIN (PINCUSHION)	• Pincushion adjustment mode
• MID PIN	• Mid pincushion adjustment mode
• 4-PIN	• 4th pincushion adjustment mode
• R. PIN	• Pincushion adjustment mode in right section
• L. PIN	• Pincushion adjustment mode in left section
• T. PIN	• Pincushion adjustment mode in upper section
• B. PIN	• Pincushion adjustment mode in lower section
• R. MID PIN	• Mid pincushion adjustment mode in right section
• L. MID PIN	• Mid pincushion adjustment mode in left section
• T. MID PIN	• Mid pincushion adjustment mode in upper section
• B. MID PIN	• Mid pincushion adjustment mode in lower section
• KEY (KEYSTONE)	• Keystone adjustment mode
• MID KEY	• Mid keystone adjustment mode
• R. KEY	• Keystone adjustment mode in right section
• L. KEY	• Keystone adjustment mode in left section
• T. KEY	• Keystone adjustment mode in upper section
• B. KEY	• Keystone adjustment mode in lower section
• R. MID KEY	• Mid keystone adjustment mode in right section
• L. MID KEY	• Mid keystone adjustment mode in left section
• T. MID KEY	• Mid keystone adjustment mode in upper section
• B. MID KEY	• Mid keystone adjustment mode in lower section
• WING	• Wing adjustment mode
• SUB WING	• Sub wing adjustment mode
• R. WING	• Wing adjustment mode in right section
• L. WING	• Wing adjustment mode in left section
• T. WING	• Wing adjustment mode in upper section
• B. WING	• Wing adjustment mode in lower section
• R. MID WING	• Mid wing adjustment mode in right section
• L. MID WING	• Mid wing adjustment mode in left section
• T. MID WING	• Mid wing adjustment mode in upper section
• B. MID WING	• Mid wing adjustment mode in lower section
• BLKG RIGHT	• Blanking adjustment mode in the right position
• BLKG LEFT	• Blanking adjustment mode in the left position
• BLKG TOP	• Blanking adjustment mode in the upper position
• BLKG BOTTOM	• Blanking adjustment mode in the lower position
• BIAS	• White balance bias adjustment mode
• GAIN	• White balance gain adjustment mode

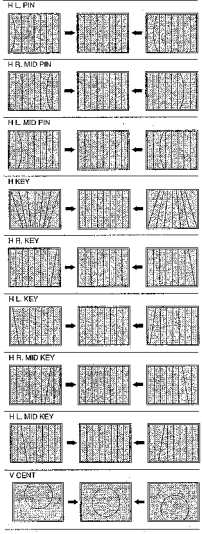
I Special mode	
• Do you wish to enter into the SERVICEMAN CONTROL MODE?	• Do you wish to enter into the service personnel control mode?
• Do you wish to return to the USER CONTROL MODE?	• Do you wish to return to the user control mode?

Displays of the Registration Adjustments



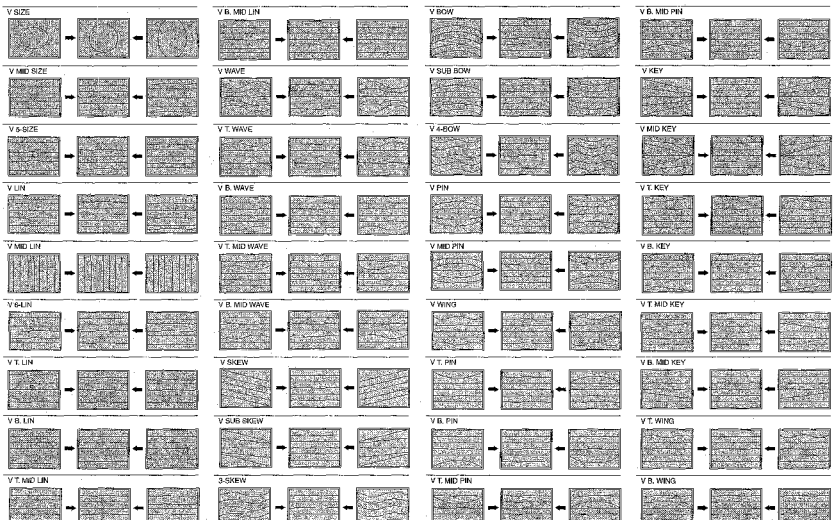




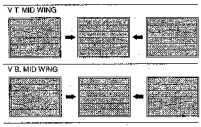


RVP-415(S1), CHP-411

Displays of the Registration Adjustments

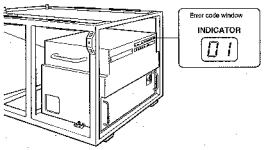


List of the Messages



Error Codes

When an operational error occurs, the power will automatically turn off and the error code indicator on the rear panel will light up. Refer to the chart below for the meanings.



Error code	Item	Meaning
01	H STOP	Horizontal polarity is not correct.
02	V STOP	Vertical polarity is not correct.
03	Ik OVER	Current in any of the R, G and B CRTs exceeds the rated output.
04	HV OVER	Abnormal high voltage
11	200V	Abnormal in the 200 V line
12	135V	Abnormal in the 135 V line
13	25V, 16V, 8V	Abnormal in the 25 V, 16 V or 8 V line
14	FAN STOP	A fan does not work.
21	D BOARD	Abnormality of the power line on the D board
22	E BOARD	Abnormality of the power line on the E board
23	A BOARD	Abnormality of the power line on the A board
31	IIC0	IIC0 bus error
32	IIC1	IIC1 bus error
91	MEMORY	Memory error

Notes

- When the error code lights up, all the current adjustment data will be cleared.
- The error code will disappear when the MAIN POWER switch is turned off.
- The error code will light up every time the power is turned on unless the operational error is recovered to normal.

SONY

3-862-174-01 (1)

Projection Wall Unit

Operating Instructions page 6 EN
Mode d'emploi page 8 F
Manual de instrucciones página 10 E
Bedienungsanleitung Seite 12 D
Istruzioni per l'uso pagina 14 I

RVP-511DJS
RVP-511DS
RVP-511DMS

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About this manual

This manual contains the "Specifications" of RVP-511DS/511DMS. As other operations are the same as RVP-411DS/411DMS/CHP-411D/411DM, please refer to the supplied Operating Instructions manual of those models.

WARNING

Owner's Record

The model and serial numbers are located on the side. Record these numbers in the space provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

For the Customers in the USA

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the Customers in Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

For the Customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow	:Earth
Blue	:Neutral
Brown	:Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow. The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Voor de klanten in Nederland

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

The socket-outlet should be installed near the equipment and be easily accessible.

Specifications

Optical characteristics

Projection system	3 picture tubes, 3 lenses, Horizontal inline system, Rear projection type
Picture tube	7-inch monochrome tubes, with coolant sealed (5.5-inch raster size)
Projection lens	F1.4/77mm
Projected picture size	50 inches measured diagonally
Luminance	RVP-511DS/511DMS with the VPS-511RF screen: ANSI (cd/m^2)[1] 190 cd/m^2 Peak 420 ft-L (1440 cd/m^2)
Light output	ANSI lumen[1] 110 lm

General

Power requirements	RVP-511DS: 120V AC, 2.8 A, 50/60Hz RVP-511DMS: 220 – 240V AC, 1.4 A, 50/60Hz
Power consumption	300 W
Operating temperature	5°C to 40°C
Operating humidity	30% to 85%
Dimensions	Approx. 1018.2 × 781 × 1236 mm (w/h/d) (40 1/8 × 30 3/4 × 48 3/4 inches)
Mass	Approx. 88 kg (194 lb)
Accessories supplied	Power cord (1) SIRCS cord 1.2 m (47 1/4 in.) (1) Operating Instructions (1)

Design and specifications are subject to change without notice.

Optional accessories

Rear screen
- VPS-511R (diffuser panels L and F without frame)
- VPS-511RF (with frame, 1.7 mm seam)
- VPS-515RF (with frame, 0.2 mm seam)

System control kit PWK-411D
(including the remote control unit RM-PJ1292)

Base stand PWR-B511A

Dual position beam PWR-P512A

Triple position beam PWR-P513A

Video input board PWB-411D

Remote control receiver RM-PJ10

RS-422 connecting cable RCC-1W2 (1.2 m)

[1] ANSI lumen and color[2] are measuring methods of American National Standard IT 7.215.

SONY

3-852-173-01 (1)

Projection Wall System

Installation Manual for Dealers page 14 EN

Manuel d'installation pour les revendeurs page 21 F

Manual de instalación para proveedores página 28 E

Installationsanleitung für Händler Seite 35 D

Manuale di installazione per rivenditori pagina 42 I

RVP-511DJS
RVP-511DS
RVP-511DMS

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English

Table of Contents

Specifications 14
Dimensions 15
Installation Space 17
Appropriate Viewing Area 18
Optical Distances 20

About this installation manual

This installation manual covers the above contents. As other operations are the same as RVP-411DS/411DMS/CHP-411D/411DM, please refer to the supplied Installation Manual of those models.

Specifications

Optical characteristics

Projection system	3 picture tubes, 3 lenses, Horizontal inline system, Rear projection type
Picture tube	7-inch monochrome tubes, with coolant sealed (5.5-inch raster size)
Projection lens	F1.1/77mm
Projected picture size	50 inches measured diagonally
Luminance	RVP-511DS/511DMS with the VPS-511RF screen: ANSI (cd/m^2)[1] 190 cd/m^2 Peak 420 ft-L (1440 cd/m^2)
Light output	ANSI lumen[1] 1100 lm

General

Power requirements
RVP-511DS: 120V AC, 2.8 A, 50/60Hz
RVP-511DMS: 220 – 240V AC, 1.4 A, 50/60Hz

Power consumption
300 W

Operating temperature
5°C to 40°C

Operating humidity
30% to 85%

Dimensions Approx. 1018.2 × 781 × 1236 mm (w/h/d) (40^1/$_8$ × 30^3/$_4$ × 48^3/$_4$ inches)

Mass Approx. 88 kg (194 lb)

Accessories supplied
Power cord (1)
SIRCS cord 1.2 m (47^1/$_4$ in.) (1)
Operating Instructions (1)

Design and specifications are subject to change without notice.

Optional accessories

Rear screen
VPS-511R (diffuser panels L and F without frame)
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System control kit PWK-411D
(including the remote control unit RM-PJ1292)
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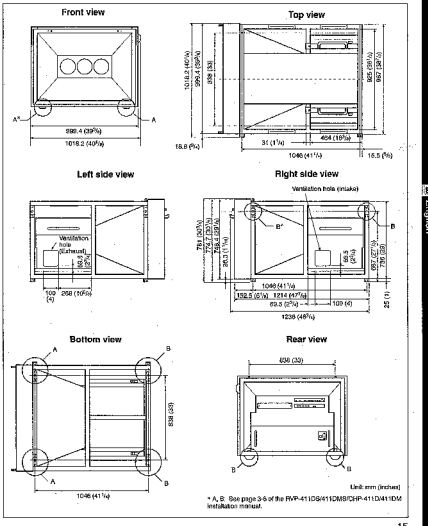
Triple position beam PWR-P513A
Video input board PWB-411D
Remote control receiver RM-PJ10
RS-422 connecting cable RCC-1W2 (1.2 m)

[1] ANSI lumen and cd/m^2 are measuring methods of American National Standard IT 7.215.

Dimensions

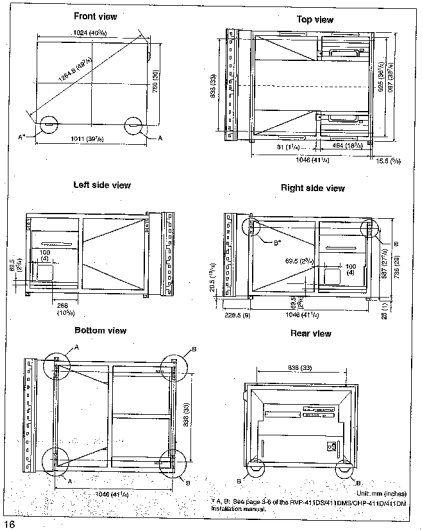
RVP-511DS/511DMS



* A, B: See page 3-6 of the RVP-411DS/411DMS/CHP-411D/411DM installation manual.

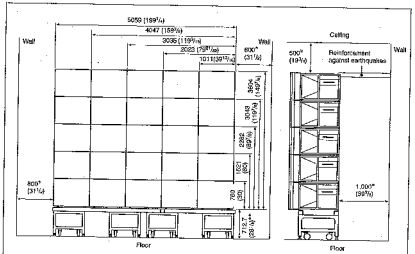
Dimensions

RVP-511DS/511DMS with the VPS-511RF Screen



* A, B: See page 3-6 of the RVP-411DS/411DMS/CHP-411D/411DM Instructions manual.

Installation Space



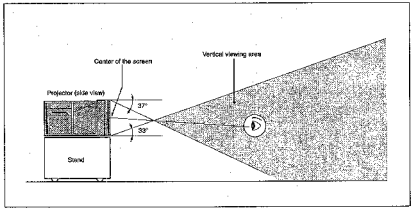
* Leave the spaces of 800 mm from the walls on both sides, of 1,000 mm from the wall on the back and of 500 mm from the ceiling, for the purpose of maintenance and adequate ventilation.
** Shows the height of a stand in standard use.

Unit: mm (inches)

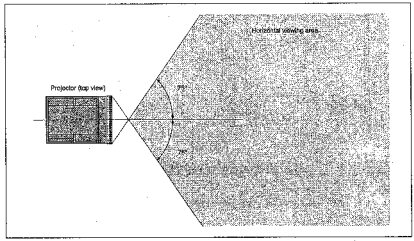
Appropriate Viewing Area

When Using One Unit

Vertical Viewing Area



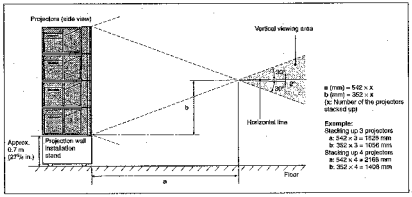
Horizontal Viewing Area



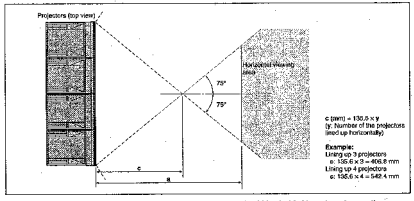
When Using Two or More Units

Example: When 16 units (4 × 4 screens) are installed approximately 0.7 m (27 $^{5}/_{8}$ in.) off the floor

Vertical Viewing Area



Horizontal Viewing Area



The optimum viewing area should be decided by using a longer distance **(a)** or **(c)**. When16 units (4 × 4) are installed, for example, distance **(a)** is longer than **(c)** and the optimum viewing area is as shown in gray areas in the illustrations above.

RVP-411/511, QRP-411

SONY

Video Input Board

3-866-104-02 (1)

PWB-411D

Operating Instructions
Mode d'emploi
Manual de Instrucciones
Bedienungsanleitung
Istruzioni d'uso

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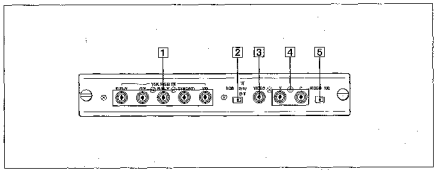


English

The video input board PWB-411D is used for the Projection Wall System PVP-411D/DM or CHP-411D/DM. Install this board to input Standard TV signals (NTSC, PAL, SECAM and NTSC4.43), 15K analog RGB signals or analog color difference signals to the Projection Wall System.

For the customers in the USA

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Location and Function of Parts

1 15K RGB IN connectors (BNC connector)
R/R-Y, G/Y, B/B-Y, SYNC/HD, VD: when you view a picture from 15K RGB or component signals, connect to the 15K RGB or component output connectors.

2 RGB/ Y/R-Y/B-Y select switch
Select the 15K RGB signals or the component (Y/R-Y/B-Y) signals.

3 VIDEO input connector (BNC connector)
Input connector for the composite video signals.

4 Y/C input connector (BNC connector)
Input connector for the Y/C separate video signals.

5 VIDEO/ Y/C select switch
Select the video or Y/C input signals.

Specifications

Inputs **RGB signal**

R, G, B: 0.7Vp-p±2dB, 75 ohms terminated
G signal with sync input:
1.0Vp-p±2dB, 75 ohms terminated
HD, VD: 1.0 - 4.0Vp-p, 75 ohms terminated,
sync positive/negative
SYNC: composite sync input, 1.0 - 4.0Vp-p,
75 ohms terminated, sync positive/negative

Y, R-Y, B-Y signal

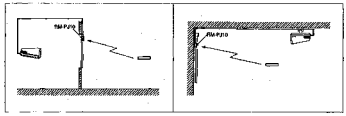
Y: 1.0Vp-p±2dB, 75 ohms terminated, sync negative
R-Y, B-Y: 0.7Vp-p±2dB, 75 ohms terminated

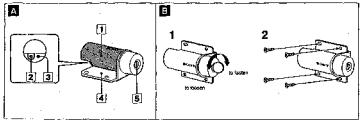
Video signal

NTSC, PAL, SECAM, NTSC4.43
Composite video input: BNC connector, 1.0 Vp-p±2dB,
75 ohms terminated, sync negative
Y: BNC connector, 1.0 Vp-p±2dB, 75 ohms terminated,
sync negative
C: BNC connector, burst level,
0.286Vp-p±2dB, 75 ohms terminated (NTSC)
0.3Vp-p±2dB, 75 ohms terminated (PAL)

The RM-PJ10 is a remote control detector that receives signals transmitted from a Remote Commander for Sony projectors. When the projector is installed where the signal from the Commander cannot reach the built-in remote sensor, install this receiver in an appropriate location and connect it to the projector. The receiver's tube casing lets the infrared signal pass.

1-1. INSTALLATION EXAMPLES





1-2. PARTS IDENTIFICATION A

1. **Remote sensor (built-in)**
   The remote control signal transmitted from a Remote Commander passes through the casing (shaded portion in Fig. A).
2. **CONTROL S output jack (minijack)**
3. **DC IN 9V (DC input) jack**
4. **Mounting bracket**
5. **Mounting bracket fastening screw**

1-3. INSTALLATION B

1 Turn the mounting bracket fastening screw counterclockwise to loosen the bracket, move the bracket to the appropriate position and tighten it by turning the screw clockwise. (Face the SONY mark towards the Remote Commander. See Fig. B for the operation range.)

2 Secure the mounting bracket using the supplied screws.

Note
Please consult qualified Sony personnel if the supplied screws do not fit your installation location.

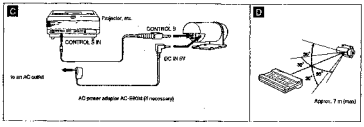
1-4. CONNECTIONS C

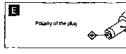
Connect the CONTROL S jack of this unit to the CONTROL S IN jack of the projector or switcher using the supplied remote control cable.

Power source
The power source for this unit differs depending on the projector or switcher to be connected. Refer to the table below.

Projector/switcher	Power source
VPH-1272Q/1272QM/1291Q/1291QM PC-1571H/1574M	Power is supplied from the projector/switcher through the CONTROL S jack.
VPH-1270Q/1270QM PVP-400/2/600/640/6000V 6000QM PC-1571/1576M	Connect the unit to an AC power source using the AC-560M AC power adaptor (not supplied).

Note
The supplied remote control cable is equipped with stereo minijacks. Be sure to use it when the power of the unit is supplied through the projector/switcher.





Precautions

- The remote control may not function if there are obstructions between the Commander and the unit.
- The remote control range is limited. The shorter the distance between the Commander and the unit, the wider the angle within which the Commander can control the projector.
- The polarity of the plug to be connected to the DC IN 9 V jack should be as shown in Fig. E. Use only the AC-560M AC power adaptor (not supplied). Do not use any other AC power adaptor.

SONY

3-861-281-01 (1)

Rear Screen

Operating Instructions — EN
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VPS-411RF/VPS-511RF

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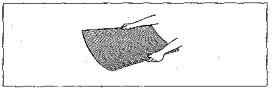
English

Features

The VPS-411RF/VPS-511RF rear screen is exclusively designed for use with the RVP-411DS/411DMS or RVP-511DS/511DMS projection wall unit, or the CHP-411D/411DM projection wall chassis.
The VPS-411RF/VPS-511RF consist of a screen frame, diffuser panel F (fresnel screen) and diffuser panel L (lenticular screen).
The VPS-411RF is a 41-inch screen, and the VPS-511RF is a 50-inch screen. Although the sizes are different, the mounting and disassembling procedures are the same for both.

Precautions

- Be careful not to scrape or scratch the diffuser panels, since they are delicate.
- Avoid using or storing the diffuser panels in hot and/or damp locations.
- When carrying the diffuser panel L, make sure to hold it by the longer sides. Otherwise it might break.



Specifications

Dimensions	VPS-411RF:	Approx. 823 × 620 × 87.1 mm (w/h/d) (32 ½ × 24 ½ × 3 ½ inches)
	VPS-511RF:	Approx. 1,011 × 760 × 87.1 mm (w/h/d) (39 ⅞ × 30 × 3 ½ inches)
Mass	VPS-411RF:	Approx. 6.2 kg (13 lb 11 oz)
	VPS-511RF:	Approx. 7.9 kg (17 lb 7 oz)

Design and specifications are subject to change without notice.

English

Features

The VPS-411R/VPS-511R rear screen is exclusively designed for use with the RVP-411DS/411DMS or RVP-511DS/511DMS projection wall unit, or the CHP-411D/411DM projection wall chassis.
The VPS-411R/VPS-511R consist of a diffuser panel F (fresnel screen) and diffuser panel L (lenticular screen). To mount the diffuser panels on the projector, use the screen frame supplied with Sony VPS-411RF/VPS-511RF rear screen.

The VPS-411R is a 41-inch screen, and the VPS-511R is a 50-inch screen. Although the sizes are different, the mounting and disassembling procedures are the same for both.

Precautions

- Be careful not to scrape or scratch the diffuser panels, since they are delicate.
- Avoid using or storing the diffuser panels in hot and/or damp locations.
- When carrying the diffuser panel L, make sure to hold it by the longer sides. Otherwise it might break.

Specifications

VPS-411R

Dimensions	Diffuser panel F: Approx. 822.4 × 619.4 × 2.0 mm (w/h/d) (32 1/2 × 24 1/2 × 5/32 inches)
	Diffuser panel L: Approx. 822.4 × 619.4 × 1.0 mm (w/h/d) (32 1/2 × 24 1/2 × 1/16 inches)
Mass	Diffuser panel F: Approx. 1.1 kg (2 lb 7 oz)
	Diffuser panel L: Approx. 0.5 kg (1 lb 2 oz)
	Total: Approx. 1.6 kg (3 lb 8 oz)

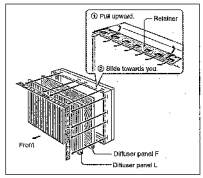
VPS-511R

Dimensions	Diffuser panel F: Approx. 1,010.4 × 759.4 × 1.5 mm (w/h/d) (39 7/8 × 30 × 1/16 inches)
	Diffuser panel L: Approx. 1,010.4 × 759.4 × 1.0 mm (w/h/d) (39 7/8 × 30 × 1/16 inches)
Mass	Diffuser panel F: Approx. 1.4 kg (3 lb 14 oz)
	Diffuser panel L: Approx. 0.8 kg (1 lb 12 oz)
	Total: Approx. 2.2 kg (4 lb 14 oz)

Design and specifications are subject to change without notice.

Replacing the Screen

To disassemble the screen



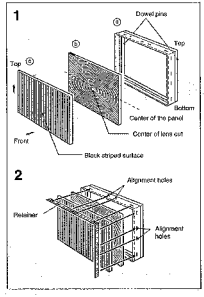
1 Remove the screen from the unit.
Refer to the installation manual of the projector.

2 Unlock the eight retainers (VPS-411R) or 12 retainers (VPS-511R).

Note
Be careful not to apply excessive force to the retainer, otherwise it may deform.

3 Remove the diffuser panel to be changed.

To attach the diffuser panels



1 Assemble the screen frame, the diffuser panel F, and the diffuser panel L in the order as illustrated. When assembling, pay attention to the following:
ⓐ **Screen frame:** The dowel pins should be toward the top.
ⓑ **Diffuser panel F:** The side with circular tracks faces the diffuser panel L. The center of the lens cut should be toward the bottom.
ⓒ **Diffuser panel L:** The black striped surface should face the front.

Note
When assembling, first place the screen frame on the floor, then lay the diffuser panels F and L in order.

2 Attach the eight retainers (VPS-411R) or 12 retainers (VPS-511R) to secure the diffuser panels. First insert the retainer hooks into the alignment holes, then into the other holes.

SONY

3-891-280-81 (1)

Rear Screen

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VPS-415RF/VPS-515RF

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English

Features

The VPS-415RF/VPS-515RF rear screen is designed for use exclusively with the RVP-411DS/411DMS or RVP-511DS/511DMS projection wall unit. As its frame is very narrow, the screen can be used to construct a projection wall screen with narrow seam.
The VPS-415RF/VPS-515RF consist of a screen frame, diffuser panel F (fresnel screen) and diffuser panel L (lenticular screen).
The VPS-415RF is a 41-inch screen, and the VPS-515RF is a 50-inch screen. Although the sizes are different, the attaching and removing procedures are the same for both.

Precautions

- Be careful not to scrape or scratch the diffuser panels, as they are delicate.
- Avoid using or storing the diffuser panels in hot and/or damp locations.
- The screen frame has a special structure for making a 0.2 mm seam. Handle it carefully.

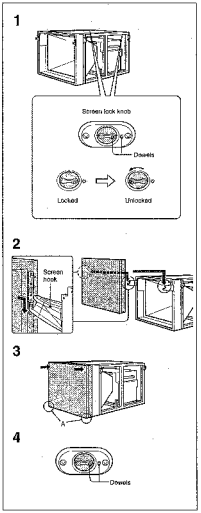
Specifications

Dimensions VPS-415RF: Approx. 823 × 620 × 84 mm (w/h/d) (32 1/2 × 24 1/2 × 3 3/8 inches)
VPS-515RF: Approx. 1,011 × 760 × 84 mm (w/h/d) (39 7/8 × 30 × 3 3/8 inches)
Mass VPS-415RF: Approx. 3.7 kg (8 lb 3 oz)
VPS-515RF: Approx. 5.2 kg (11 lb 7 oz)
Operating temperature
5°C - 40°C

Design and specifications are subject to change without notice.

Attaching to the Projection Wall Unit

Attaching the Screen



Attach the screen to the RVP-411DS/411DMS or RVP-511DS/511DMS projection wall unit.

1 Turn the two screen lock knobs at the rear of the projector while pushing them to unlock.

2 Push to protrude the two screen hooks on the front of the projector and align the two projections of both screen hooks with the holes on the reverse of the screen frame. Then push the screen down slowly.

3 Push the upper sides of the screen frame gently until it clicks to fit in.

4 Turn the screen lock knobs until the two dowels on the knob are aligned to lock the screen.

CAUTION

- Do not hold the screen hooks on the cabinet when stacking the projectors at a high place. If do so, the screen hooks may break and you may fall and injure yourself.
- Do not pull the lower part of the screen frame (around A) forcibly after it is fitted. If do so, the screen hooks may break and the screen frame cannot be locked.

English

PWR-411/511, CHP-411

SONY

3-861-280-01 (1)

Base Stand

PWR-B411A/PWR-B511A

Dual Position Beam

PWR-P412A/PWR-P512A

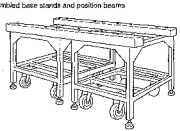
Triple Position Beam

PWR-P413A/PWR-P513A

Mounting Instructions

This manual explains how to mount the base stand and position beams which hold the Sony RVP-411DS/411DMS or RVP-511DS/511DMS projection wall unit.
The illustration below shows the PWR-B411A base stand with the PWR-P412A dual position beam.

Assembled base stands and position beams



Number of Base Stands and Position Beams

The required numbers of the base stands and position beams differ depending on the number of projectors in a horizontal row. The joint points also differ. Check the following table.

Projector	Required number of base stands and position beams, and their joint points
2 projectors	Dual position beam × 1 Base stand × 2
3 projectors	Triple position beam × 1 Base stand × 2
4 projectors	Dual position beam × 2 Base stand × 3
5 projectors	Triple position beam × 1 Dual position beam × 1 Base stand × 4
6 projectors	Triple position beam × 2 Base stand × 5
7 projectors	Dual position beam × 2 Triple position beam × 1 Base stand × 6

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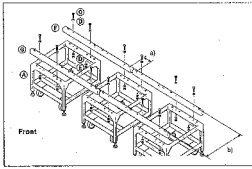
Mounting

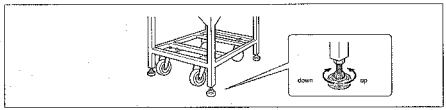
The three PWR-B411A base stands with two sets of PWR-P412A position beams are used for illustration purposes.
Be careful to follow the directions for the base stand and position beam.

1 Attach the position beams to the base stands.
Fix the front position beam Ⓖ and the rear position beam Ⓕ to each base stand Ⓐ with four bolts Ⓒ, four nuts Ⓓ and eight washers Ⓔ.
Check the joint points with the table on the previous page.

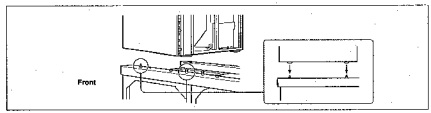


Note
When the base stands are not used, set pitches a) and b) between the position beams as follows:
a): 174 mm (6 $^{7}/_{8}$ inches)
b): 854 mm (33 $^{5}/_{8}$ inches) for PWR-P412A/P413A
1046 mm (41 $^{1}/_{8}$ inches) for PWR-P512A/P513A

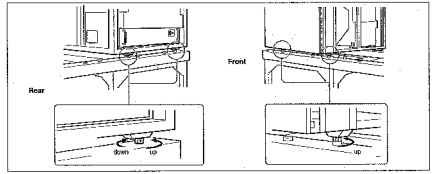
2 Adjust the height of the adjusters on the base stand.
Turn the adjusters using the supplied wrench until the position beams are installed horizontally.



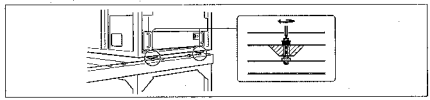
3 Place all the projectors for the bottom row on the position beams.
Insert the dowel pins on the front position beam into the front legs of the projector.
Then check whether the projectors are level.



4 If the projectors are not level, adjust them horizontally.
Adjust the nuts on the rear position beam with the supplied wrench until the projector is level with the highest one. If adjusting the rear nuts is not sufficient, adjust the nuts on the dowel pins of the front position beam.



5 Fix the projector to the position beams.
Turn the screws on the projector (2 on the front, and 2 on the rear) and fix the projector to the position beams.

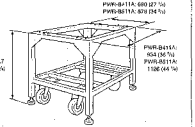


Note
Do not turn the horizontal adjustment nuts after the projector is fixed to the position beams. If the horizontal adjustment is necessary, first loosen the fixing screws.

Parts List

■ PWR-B411A/PWR-B511A

Ⓐ Base stand — Unit: mm (inches)



PWR-B411A: 44 kg (97 lb)
PWR-B511A: 50 kg (110 lb 7 oz)

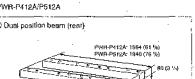
Ⓑ	Wrench	1	
Ⓒ	Hexagonal head bolts	4	
Ⓓ	Washers	8	
Ⓔ	Hexagonal nuts	4	

Note

Use the supplied wrench Ⓑ for adjustment. Do not use it for mounting as adequate torque cannot be applied with the supplied wrench. If you use it for mounting, the wrench may be bent.

■ PWR-P412A/P512A

Ⓕ Dual position beam (rear)



Ⓖ Dual position beam (front)

PWR-P412A: 20 kg (44 lb 2 oz)
PWR-P512A: 24 kg (52 lb 15 oz)

■ PWR-P413A/P513A

Ⓗ Triple position beam (rear)

Ⓘ Triple position beam (front)

PWR-P413A: 30 kg (66 lb 2 oz)
PWR-P513A: 36 kg (79 lb 4 oz)

The usable base stand and position beams are different depending on the projector models.

Projector	Base stand	Dual position beam	Triple position beam
RVP-411DJS RVP-411DS RVP-411DMS	PWR-B411A	PWR-P412A	PWR-P413A
RVP-511DJS RVP-511DS RVP-511DMS	PWR-B511A	PWR-P512A	PWR-P513A